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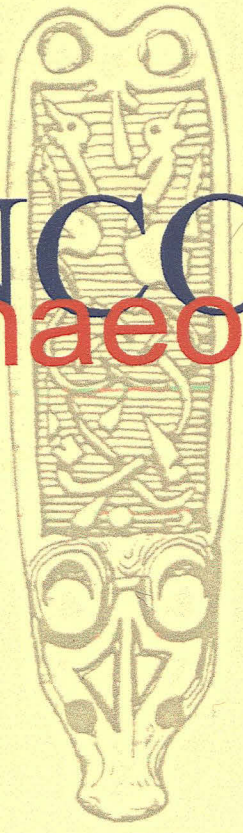
A Report to Lindsey Securities Ltd

Januarv 2000



LINCOLN archaeology

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

Report No.: 404

LINCOLN archaeology

Event CI1123
54514 - Prehist
52852 - Ro
52864 - earlymed
50499 - Med
54515 - Undated
52857 - Med

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ARCHAEOLOGICAL EVALUATION

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ARCHAEOLOGICAL EVALUATION

NON-TECHNICAL SUMMARY

Between September and November 1999 the City of Lincoln Archaeology Unit undertook a programme of archaeological evaluation, on behalf of Lindsey Securities Ltd, on land forming part of a large residential development, off Church Lane, Cherry Willingham, Lincolnshire. The site lies close to several areas where previously, Roman, Saxon, and medieval finds have been located. Until recently, an extensive network of medieval fishponds and ditches lay at the northern end of the site (all but one of the ponds was infilled as the residential development was enlarged).

During September 1999, at the request of the County Archaeological Officer, advisor to West Lindsey District Council, the client commissioned the CLAU to carry out a geophysical survey over parts of the site (principally a low-lying area previously used as a paddock). This survey revealed few archaeological anomalies (a large linear ditch feature was noted to lie at the southern end of the survey area, and other, less obvious features were also indicated).

After discussions between the client and the Archaeological Adviser, a series of eleven archaeological trial trenches was then excavated over the site (including trenches in those areas where geophysical survey was not carried out due to unsuitable ground conditions). As expected, the trial trenching revealed very few archaeological features in the area of the geophysical survey (the ditch towards the southern end of the site was recorded as was evidence suggesting the presence on the site of ridge and furrow (medieval ploughing) aligned east-west.

Trenching on the higher ground at the northern end of the site revealed concentrations of prehistoric flints of Neolithic & Bronze Age date, which indicates the presence of settlement on, or in close proximity to, the site. Although a few finds of Roman date were also found during the trial trenching, there was no evidence to suggest that occupation from this period occurs on the site (apart from a Roman farmstead which lay close to the south-east corner of the development).

Extensive evidence for Anglo-Saxon occupation was also recorded on the higher ground (this phase of site activity appears to form part of a much larger settlement first identified in 1980). Here, many ditches, pits and post-holes were recorded, as was evidence for Saxon metalworking evidenced by slag and hammerscale deposits. The data relating to the Saxon occupation of the site forms the greater part of the site record and can be viewed as being of local and regional importance. Few sites of Saxon date have been adequately excavated and even fewer have revealed the continuity of occupation as can be demonstrated on the Cherry Willingham site.

The excavation of a trench at the southern end of the site, on an area of slightly higher ground (not included within the geophysical survey), revealed a concentration of features and finds evidence suggesting that this area may contain further, potentially important, remains of Saxon or later date. It was therefore decided by the Archaeological Adviser to West Lindsey District Council to carry out a further geophysical survey of the area to the south of the site, in order to provide further information regarding the archaeological features found during the excavation of the trial trench. (This area, for the most part, lay just outside of the area forming Phase VII of the development). The results of the survey revealed that the archaeological features found in Trench 11 lay on the northern edge of a concentration of buried anomalies including a possible enclosure, several linear anomalies (ditches) as well as extensive ferrous signals which may represent areas of metalworking.

Evidence for medieval occupation on the site was found in the trenches excavated at the north of the site, revealing ditches and pond remains associated with the previously noted manorial fishpond complex.

The evaluation also revealed that extensive soil movement has occurred on the site since the 1970's, obscuring much of the buried archaeology lying at its northern end.

1.0 INTRODUCTION

Between September and November 1999 the City of Lincoln Archaeology Unit (CLAU) undertook a programme of archaeological evaluation, on behalf of Lindsey Securities Ltd (the Client), on land forming part of a large residential development, off Church Lane, Cherry Willingham, Lincolnshire (The Hawthornes – Phase VII). The evaluation was carried out as a result of a condition placed on a Section 106 Agreement made between the client and the District Council of West Lindsey.

Plate 1: General view of Trench 10, looking south-east towards Trench 8.

2.0 SITE LOCATION

Cherry Willingham lies in the district of West Lindsey, *c.* 6Km to the east of Lincoln, on the northern edge of a glacial gap in the Jurassic Limestone ridge (known as the "Lincoln Edge") which contains the course of the River Witham. The site lies at the south-east edge of the village, on land immediately to the south-east of the Church. The northern end of the site lies on the top of a natural prominence or knoll at *c.* 20m OD. To the south of this point, ground level drops away sharply, levelling out at approximately 13m OD, rising slightly at the southern end of the site, before dropping away again steadily to the south, into the Witham Valley. Geological deposits on the site consist of Kellaways sand and clay on the higher, northern ground, and cornbrash over Blisworth Clay across the remainder of the site.

Ground cover across the site immediately prior to the commencement of the evaluation consisted of rough grass and building debris (on the northern slope of the site). Well-grazed grass (across the flat, central area of the site), turned to rough pasture on the slightly higher southerly ground. A proposed Phase VII roadway, in the south-east corner of the site partially encroached into more wet/marshy ground conditions. To the north and east are situated earlier phases of the development which have been occupied, or are already in the process of being constructed. The southern part of the site, forming the remainder of the total development area, awaits construction (Phases VIII-XI), and is currently made up of rough pasture and marshy ground. National Grid Reference TF 0350 7225 (Fig. 1).

3.0 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

Prehistoric

Although prehistoric finds have previously been recovered from the site, firm evidence for prehistoric settlement has so far have eluded discovery. An ongoing archaeological watching brief (CWCL99), running in conjunction with the construction of The Hawthornes, Phase VI (immediately to the east of the area under investigation), has produced a small assemblage of flints dating to the Neolithic period. A fragment of a Neolithic coarse stone axe was also found on the site, close to its Fiskerton Road boundary (SMR No. 528448).

Many finds of prehistoric date have been recorded to the south of the site, in the area close to the River Witham. The excavation of a drainage ditch to the south of Fiskerton Road revealed, several flints including two arrow heads, a scraper and a blade (Early Neolithic to late Bronze Age - SMR No. 51208). Aerial photographic records have revealed an important Bronze Age barrow cemetery to lie on the north bank of the River Witham, 750m due south of the site (SMR No. 52850 – TF 0390 7160). The presence of this barrow cemetery has established this area of the Witham Valley as being ritually significance during the prehistoric period.

A Bronze Age beaker was found in Cherry Willingham in 1982, but unfortunately its precise find location is not known (SMR No. 52862). Similarly, a Late Neolithic/late Bronze-Age palstave recovered by a metal detectorist searching in the village during September 1999 is also unlocated (SMR No. 54502). Several areas close to the site have revealed undated cropmarks (aerial photographs) including linear ditches, ring ditches and various enclosures.

Roman

Principal Roman occupation in the vicinity of the Cherry Willingham centres on Lincoln where the Romans established a hilltop fortress *c.* AD 50. By *c.* AD 96, Lincoln had the status of Colonia, a self-governing civic community that utilised the uphill site of the former fortress. By the end of the 2nd century the defences of the Colonia were extended down to the River Witham. The extent of Roman occupation of the area surrounding the city is well recognised; many Roman sites have been located along the edges of the Jurassic limestone ridge. The pattern of Roman settlement to the east of the city is less understood, although similarly widespread.

Some finds indicating the presence of Roman occupation in the vicinity of the site have been found, Although much of this evidence relates to single finds, other, more productive areas, are though to represent more established occupation. The most notable of the known Roman sites lies close to Fiskerton Road, on the western edge of the field immediately to the east of the development area (SMR No. 52852 – TF 0360 7200). This spot is thought to locate the site of a Roman farmstead. Here, a group of ditches (visible as cropmarks) and a concentration of Roman finds including pottery and coins (Constantius I 306-337 AD and Constantius II 337-361 AD) have been recorded.

Roman finds/sites from the area around Cherry Willingham include the handle of a Roman amphora (storage vessel) found 1Km to the south-west of the site (SMR No. 51208). During 1971, a Roman coin of Constantius (AD 335-337) was found in a rear garden 300m to the north-west of the site (SMR No. 52844). An unknown quantity of Roman pottery was found on, or very close to, the western boundary of the site (SMR No. 52851 TF 0319 7241), and a further concentration of building stone, tile and 2nd – 3rd century pottery was found 400m to the north-east (SMR No. 52853). A few sherds of Roman pottery was also recovered during fieldwalking along the top of the rise to the east of the church prior to the construction of earlier phases of 'The Hawthornes' (SMR No. 52866).

Anglo-Saxon

After the departure of the Romans, the abandonment of Lincoln appears to have commenced during the late 4th century, with town life reduced to a small community between the 5th and 9th centuries.

This migration of the population is little understood although occupation of the countryside around Lincoln appears widespread.

Fieldwalking in Cherry Willingham during 1978, of ploughed land under threat from permitted suburban development (The Hawthornes), immediately to the east of the church and graveyard extension, uncovered about 40 sherds of Saxon pot from a very small area of land. The pot was described as settlement material rather than that normally derived from a cemetery. The North Lincolnshire Archaeology Unit carried out excavations in 1980, in the area where the previously mentioned fieldwalking had already identified Saxon pot. The excavations were revealed to lie on the edge of a Saxon and medieval settlement. Saxon features on the site included, one sunken-featured structure (associated with 9th century pottery) and a series of drainage gullies and fences. The most important find however, was the remains of a Saxon iron-smelting furnace. Pottery from the site spanning the 6th – 12th centuries was also recovered (SMR No. 52864). The watching brief carried out during the construction of The Hawthornes Phase VI revealed, beneath one of the house plots, a pit feature infilled with reddy soil containing hammerscale (a residue produced during the working of iron). Although undated, the residue is thought to be associated with Saxon metalworking. A network of ditch/gullies was also recorded in this area and may also be associated (CWCL98, CLAU forthcoming).

Medieval

At the time of the Norman Conquest Lincoln was home to perhaps 6-7000 people and formed one of the largest settlements in the newly conquered kingdom. In contrast, Cherry Willingham was a very small village, only seeing substantial growth in the second half of the 20th century. During the latter part of the medieval period the village was even exempt from the Parish Tax, having less than 10 households.

Cherry Willingham is first mentioned in the Domesday Book of 1086 as Wilingeham, meaning 'the homestead, estate of the Willingas' (Willingas, Old English, a group name meaning 'Willa's family dependants' and Old English 'hàm'). The affix on the first name is Middle English cheri(e) 'a cherry tree' probably denoting a place where such trees grew. The Domesday Book also mentions land held by two people in the village, the Bishop of Lincoln and Gilbert of Gant.

Until recently, many earthworks identified as medieval fishponds were present on the site (Fig. 2). Although no direct contemporary reference has been found to them, it is generally believed that they formed appurtenances of the manor held from the 12th century to the early 15th century by the Marmion family of the fee of Gant. The Tithe map shows two ponds with the field name 'Cross Homestead'.

Further evidence for medieval occupation of the area has been identified at TF0359 7228, where a pottery scatter was recorded approximately 200m to the east of the site, in an adjacent field (SMR No. 52849). Evidence for ridge and furrow lies to the north-east of the village, to the north of the railway (SMR No. 52857). A levelled mound revealed as a cropmark amongst ridge and furrow is located *c.* 800m to the north-east of the site and may locate the position of a windmill (SMR No. 52858).

The present day church of St. Peter and St. Paul (constructed 1753) lies on the site of an earlier church of at least medieval date (SMR No. 52865).

4.0 AIMS & METHODOLOGY

Within the limits of the proposed investigation procedures this evaluation aimed to:

A. provide information on the presence/absence, nature, date and quality of survival of archaeological deposits and remains which might be contained within the site and assess their importance.

B. assess the possible scale of development impact on any remains and provide information which might influence development design so that impact on any remains can be avoided or minimised.

C. provide information that will allow a local planning authority to reconcile development proposals with their policy for preserving archaeological remains and make an informed and reasoned decision on a planning application.

D. provide site specific archaeological information which (if necessary) would allow for the design and integration of timing and funding of any further archaeological work (or other mitigating strategy) which might be required in advance of or during any subsequent development programme.

E. produce a project archive for deposition with the appropriate museum and from which the potential for further study and academic research could be assessed.

F. provide information for accession to the County Sites and Monuments Record (SMR).

The evaluation was undertaken as a requirement of the local planning authority. The programme of evaluation was designed to avoid damage to buried archaeological deposits or remains other than was necessary to achieve the objectives set out above.

The requirements for the evaluation meant, in the first instance, the commissioning of a geophysical survey across *c.* 1-hectare of the site. The results of this survey (see Appendix 5, Survey Area A) were then utilised by the archaeological consultant to West Lindsay District Council to establish the location of eleven trial trenches. A mechanical excavator, with a wide toothless bucket, was used to remove the non-archaeological overburden. All archaeological features and deposits exposed during the trenching were recorded on CLAU proforma context record sheets. Scale drawings of archaeological features were made and a full photographic record compiled. All artefacts and other materials recovered and retained from the investigations were packed and stored in the appropriate materials and conditions to ensure that minimum deterioration took place and that their associated records were complete (see Appendix 2 for context summary and Appendix 4 for the finds archive). A further area of geophysical survey (approximately 1.1 hectare) was carried out in the southern part of the site, with the intention of providing further information to the local planning authority regarding the nature of archaeological deposits exposed during the evaluation of Trial Trench 11 (see Appendix 6, Survey Area B).

Post-fieldwork was structured in accordance with guidelines described in *The Management of Archaeological Projects* 2 (English Heritage 1991).

5.0 ANALYSIS

TRENCH 1 (Figs. 2 & 11)

Trench 1 was situated at the southern end of the development area, along the line of a proposed roadway. Nominally 20m x 1.5m, this trench was located in an area described as quiet by the results of the geophysical survey of Area A. Excavation of the trench revealed no archaeological deposits or features to be present, although a single flint was recovered from the spoilheap.

TRENCH 2 (Figs. 2, 10 & 11)

Trench 2 was located towards the southern end of the site, aligned north to south across a curving ditch identified during the geophysical survey of Area A. Excavation of the evaluation trench revealed natural to consist of cornbrash, overlain by subsoil deposit [006], a yellow/brown slightly clayey silt soil. [006] was believed to have been deposited over the site as a result of hill-wash. The ditch revealed by the geophysical survey of Area A was found to be 1.6m wide and 500mm deep ([006]). Its fill, [009], a mid. grey/brown sandy/silt contained occasional-frequent angular limestone fragments (top of ditch 12.44m OD, base – 11.94m OD). Ditch [008] was in turn sealed by topsoil [005] (12.64m

OD). Unstratified material from the trench ([004]) included an Early Neolithic, flint blade and ceramic dating to the 18th/19th century.

TRENCH 3 (Figs. 2, 10 & 11)

Lying *c.* 50m to the north-east of Trench 2, Trench 3 (aligned north-south) was located on the low-lying area of land, in the approximate centre of the investigation area. Natural cornbrash was revealed at *c.* 12.6m OD. Excavation of the trench revealed no obvious archaeological features, however, a series of slight ridges was noted in the natural corn-brash. Interpretation suggests that they may represent the remnants of east-west aligned medieval ridge and furrow. Overlying the natural was [012], a subsoil similar to [006] in trench 2 but more clayey. A further subsoil deposit [011] (as [006]) sealed [011] and was in turn sealed by topsoil [010] (north 13.533m OD, south 13.213m OD). One flint was recovered from the spoilheap.

TRENCH 4 (Figs. 2 & 11)

Trench 4, aligned north-east south-west, was positioned close to the south-west boundary of the site and was sited to transect linear anomalies revealed during the archaeological watching brief during Phase VI. In the event, the excavation of the trench revealed no archaeological deposits and features. The Stratigraphic sequence being natural cornbrash, sealed by subsoil then topsoil (topsoil - north 13.303m OD, south 13.083m OD). A single flint of indeterminate date was recovered from the excavated trench spoil.

TRENCH 5 (Figs. 2 & 11)

Aligned north-east to south-west and located *c.* 40m to the north of Trench 4, Trench 5, lay in an area revealed to be quiet by the geophysical survey of the site. Excavation revealed a similar sequence of stratigraphy as was revealed in trench 4. A fragment of medieval tile (13th-15th century) was recovered from the subsoil, [017] (topsoil – south-west 13.64m OD, north-east 14.073m OD).

TRENCH 6 (Figs. 2 & 11)

Aligned north-east to south-west, Trench 6 lay approximately 30m to the west of Trench 5, and revealed the same stratigraphic sequence of deposits. No evidence for archaeological features was present, although a fragment of medieval-late medieval tile (15th-18th century) was recovered from subsoil [019] (topsoil - east 14.33m OD, west 14.23m OD).

TRENCH 7 (Figs. 2, 3 & 11, Plate 2)

Sited at the base of the hill-slope, to the east of the pond, Trench 7, was excavated on an approximately north-south alignment. Its location here was intended to establish the presence of features associated with the complex of medieval fishponds which were known to exist on the site (the pond to the west of the trench being the only surviving remnant). The presence of large modern building debris in this area of the site meant that the use of geophysical survey was thought impractical.

Natural sand deposits ([031]) were revealed at 14m OD rising to 14.70m OD at the northern end of the trench. Two east-west ditches, [022] and [023] were recorded cutting in to the natural sand at the southern end of the trench (base of ditches – 14m OD & 13.94m OD). Lying 1.5m apart, both ditch cuts were shown to be 'U' shaped in profile. Their fills [032] and [033] were sandy, slightly clayey soils with occasional pebble inclusions. These ditches were undated and although appearing to have been sealed by a later subsoil deposit, are just as likely, given the nature of the site's subsoil, to have been cut in to it.

Moderately compact, yellow/brown sandy/silty subsoil, [030] (450mm-530mm thick), overlay the aforementioned ditches. A broad, east-west ditch, [024], cut through the subsoil at the far northern

end of the trench. In profile, [024] was revealed to be over 3.5m wide and 1m deep, with slightly convex, 45-degree sides with a slot forming the base of the cut (base – 14.32m OD). The primary fill of the ditch, [034], a moderately compact, grey/brown clayey sand contained occasional small, rounded pebbles and frequent roots. Ditch [024] can be identified as being associated with the medieval fishponds recorded during the RCHME survey of the site.

Partially truncating the southern edge of ditch [024] was pit [025]. In section, the pit was shown to be 'U' shaped, 2m wide and 800mm deep (top 15.30m OD – base 14.52m OD). Its fill, [035], a dark grey clayey soil contained frequent organic material (straw and plant roots) as well as occasional pebbles. In plan, the pit was revealed to have a small circular cut at its western end – possibly a post-hole. Topsoil, [029], overlay the pit and subsoil (north 15.55m OD – south 14.36m OD). No further features were recorded in the trench. Unstratified finds from the trench spoil (context [021]) included, three flints (Early Neolithic-Late Neolithic/Early Bronze Age), one piece of animal bone and one sherd of Roman pottery.

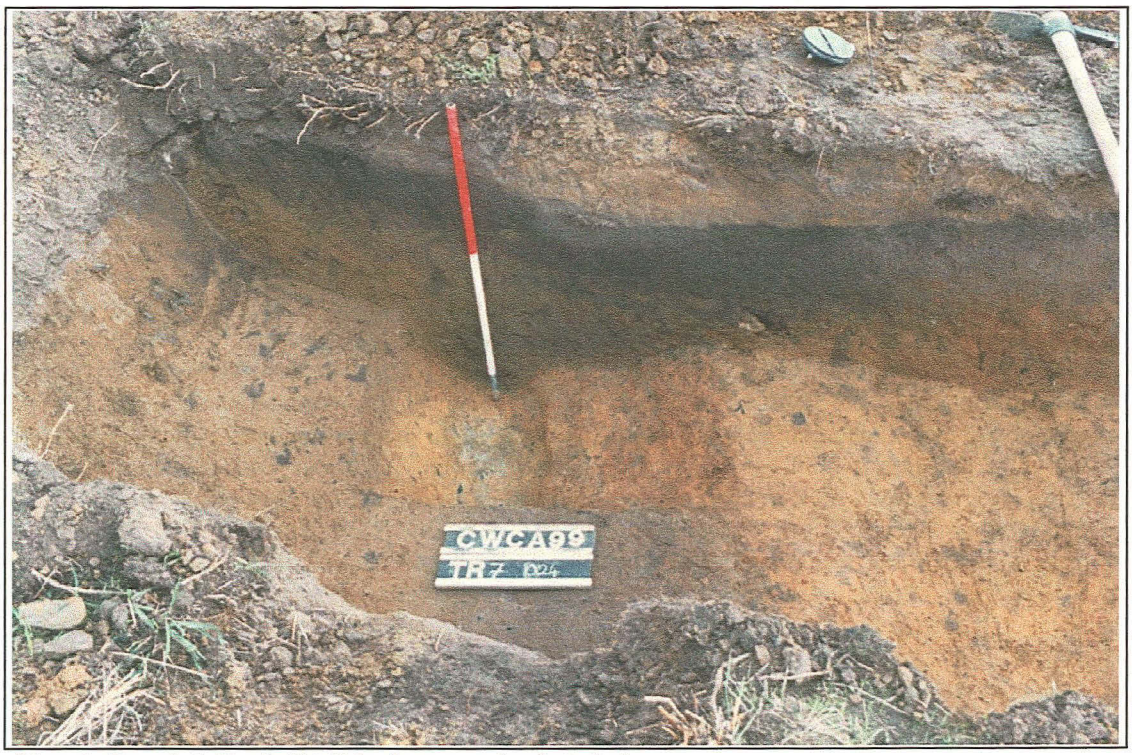

Plate 2: Trench 7, Ditch [024] looking east (scale is 1m)

TRENCH 8 (Figs. 2, 4 & 11)

Trench 8 was situated approximately mid-way up the hill-slope at the northern end of the site and aligned north-east to south-west. Excavation revealed that natural sand and clay ([119]) occurred at 17.30m OD & 16.07m OD (N/E & S/W) and was in turn sealed by [118], an extensive sandy subsoil, varying in colour between a mid reddy/brown to a light yellowish/grey. Several pit and linear features were recorded cutting through the subsoil.

At the southern end of the trench lay [108], an east-west, *c.* 1.20m wide and approximately 400mm deep linear ditch (top 16.50m OD, base 16.10m OD). The fill if the ditch, [107], a slightly clayey silty/sand contained frequent charcoal, organic material (reed), some animal bone and a small quantity of late-Saxon pottery. A 3.4m wide, 500mm deep ditch, [110], lay to the south of and sealed [108](top 16.50m OD, base 15.99m OD). Its fill, [109], a mid-dark grey clayey sand contained frequent charcoal and organic material including a quantity of animal bone. To the north of, and parallel to, cut [108], lay a further east-west ditch, [106]. Its fill, [105], a mid yellow/grey clayey silt contained pottery dating to the 8th-9th century. This fill was very similar to fill [107] in cut [108], but it was unclear whether [108] and [106] were contemporary (top 16.50m OD, base 16.11m OD).

Immediately to the north of ditch [106] lay pit feature [098]. Measuring 1m in diameter and *c.* 400mm deep, its fill, [097], contained 21 fragments of animal bone, and was very similar to that of ditch [106]. A large, flat limestone fragment (post-pad?) present in the base of the pit may indicate that the pit had a structural function (top 16.52m OD, base 16.10m OD). Emanating from the eastern section of the trench, to the south of pit [098] and to the north of ditch [106], lay [116], an east-west gully. A second, nearly identical gully, [104], lay to the north of pit [098]. Both of the gullies terminated at pit [098], and both were revealed to be *c.* 200mm wide and 350mm deep (gully bases – 16.31m OD & 16.47m OD). It was unclear whether these features were associated with pit [098], although their fills [103] & [115] were indistinguishable from [097], the fill of pit [098]. Immediately to the north of gully [104] lay a further east-west 'ditch' cut. This cut, [100], was shallow (150mm deep) and 500m wide, with 45-degree sides and a flat base (base 16.60m OD). As with many of the features present in the trench, its fill, [099], was very similar from others in the trench (generally, mid yellow/grey clayey silts). A shallow post-hole, [102], was recorded 400mm to the north of cut [100] (base 16.59m OD). A second pit ([096]), similar in proportion to [098], lay *c.* 2.50m to its north, 800mm north of post-hole [102] (top 16.81m OD, base 16.36m OD). Again, the fill of the pit, [095], was similar to that of the other features recorded and contained a quantity of animal bone. The analysis of an environmental sample taken form [095] revealed a few charred cereal grains, fish bones and snail shells (sample 6). A narrow, approximately, east-west gully, [094], was recorded crossing the trench *c.* 2m to the north of pit [096]. Excavation of the gully revealed what appeared to be three stake holes following the line of its base. In profile, cut [094] was very similar to cut [100], which lay on a parallel alignment 4.80m to its south (base 16.82m OD). The fill of gully [094], [093], a light yellow/grey silt, contained several animal bones and some early or mid Saxon pottery. A third east-west cut, [113] (base 17m OD), was located *c.* 3.4m to the north of [094].

Cutting through [113] on a north-east–south-west alignment was ditch [092]. In section, [092] was shown to have a 'V' shaped profile similar to cuts [106] & [108] (top 17.11m OD, base 16.76m OD). In fact, projecting the line of [106] & [108] with that of [092], suggests that they meet at right angles approximately 3m to the east of the evaluation trench. The fill of the ditch, [091] (identical to the fills of [106] & [108]), contained a small assemblage of animal bone (14 fragments), late Saxon pottery and two residual (Early Neolithic) flint blades. A large, 3m wide, 700mm deep cut ([112]) was revealed in the east section of the evaluation trench at the point where ditch [092] reaches the trench section (top 18.10m OD, base 17.30m OD). The fill of [112], [111], a dark grey/brown silty clay contained a quantity of modern building debris, suggesting a recent date for its infilling. However, the cut itself may be earlier, possibly originally forming part of the complex of medieval fishponds. All of the aforementioned features and deposits were subsequently sealed by topsoil deposit [117] (north 18.59m OD, south 16.93m OD). Unstratified finds recovered from the spoilheap ([090]) included a further 2 flints of Early Neolithic date, Late Saxon pottery and 35 animal bones.

TRENCH 9 (Figs. 2, 5, 6, & 12, Plates 3 & 4)

Trench 9 lay between the site's western boundary and the pond, partway up the hill-slope. The trench was approximately $10m^2$, with a further 15m long, 1.5m wide trench emanating eastwards from its south-east corner (the long trench was intended to transect a rectangular depression thought to represent an infilled pond associated with the medieval fishpond complex).

Natural deposits in Trench 9 were revealed to be south sloping sands and clays similar to those recorded in Trench 8 (16.25m OD – 15.34m OD). An extensive (600mm thick) subsoil deposit ([163]) containing few artefacts including flint, animal bone and some early medieval-medieval pottery (12^{th}-early 13^{th} century) sealed natural and was in turn truncated by many linear, pit and post-hole like anomalies.

Four roughly parallel, curving ditches, [145], [162], [157] & [186], emanated from the western section of the trench, curving gently towards the north-east. The earliest ditch was [162] (base 15.44m OD), and was substantially truncated by ditch [145], to its north and ditch [157], to its south. This resulted in a poor ditch profile with a width of only 1.2m visible (the ditch was probably much wider when initially cut). The fill of the ditch, [161], a light grey/brown clayey silt contained occasional cornbrash and charcoal fragments. Ditch [145] (base 15.55m OD), lay to the north of ditch [162] and

was shown in section to be in excess of 2m wide (the depth of the ditch was unclear given the nature of the subsoil it was cut in to. Its fill, [144], a mottled light grey, slightly clayey silt, contained frequent brash fragments along with occasional charcoal, and angular flint. Artefacts including flint, animal bone, Roman tile and pottery of Roman & middle-Saxon date were also recovered.

To the south of [162] lay [157], the earlier of the two remaining ditches. [157], extended north-east across the trench, curving very slightly northwards. In profile the ditch was seen to be 'U' shaped, and at least 1.4m wide and 500mm deep (base 15.27m OD). Its fill, [156], a waterlogged, light grey slightly clayey silt, produced occasional-frequent charcoal flecks, animal bone and fragments of middle-Saxon pot. The most southerly ditch was [186] (base 15.05m OD). Closely following the line of [157], ditch [186] was revealed to be in excess of 1.8m wide and up to 1m deep with 45-degree concave side running in to a 'V' shape base. The fill of the ditch, [155], a waterlogged, dark grey slightly clayey silt, contained occasional–frequent charcoal flecks as well as animal bone and middle Saxon pottery.

Plate 3: Trench 9 looking south-east towards the pond. The Saxon boundary ditches can be seen in the lower right-hand corner of the photograph crossing the trench to the top left corner. Various pits and post-holes can be seen in the foreground.

An east-west alignment of post-holes lay parallel with the line of the northern trench section (cuts – [123], [125], [165], [139], [151] & [167] – bases 15.99m OD – 16.17m OD). The aforementioned post-holes were thought to be contemporary by their identical fills, a firm, light brown slightly clayey sand soil (fills [122], [124], [164], [138], [150] & [166]). A further post-hole, [129], lay slightly to the south of post-holes [125] & [165], and is also suspected as being contemporary with this group of features. Its fill [128] (base 16.04m OD), contained middle Saxon pot and a few animal bones. Lying between post-holes [139] & [165] was a sub-linear gully [137,143]. Emanating southwards from the north section of the trench (north 16.60m OD, south 16.23m OD), the gully terminated at the point where it crossed curvilinear ditch [145]. The fill of the gully [136,142], was almost identical to the aforementioned post-holes suggesting that it may also be contemporary. Finds recovered from the gully fill included, 1 residual flint, and a quantity of animal bone and pottery suggesting a mid-late-Saxon date.

A post-hole, [135], truncated gully [136,142] midway along its exposed length. Measuring 700mm in diameter and 320mm deep the post-hole had near vertical sides and a rounded base (top 16.21m OD,

base 15.88m OD). Its fill, [134], a mid grey/brown silty soil contained one flint blade or flake, occasional fragments of burnt clay, some animal bone and late Saxon pottery. A similar sized post-hole, [141] (base 15.98m OD), lay 500mm to the east of [135]. Its fill, [140], was identical to [134] and suggests an association.

A circular pit, [133], lay close to the north-east corner of the trench. Pit [133] was seen to be 'U' shaped with 45-degree concave sides, and measured *c.* 1m in diameter and 340mm deep (top 16.02m OD, base 15.68m OD). Finds recovered from its fill, [132], a mottled light grey slightly clayey silt, included occasional charcoal, flint, animal bone and middle Saxon pottery fragments. Environmental analysis of a sample (2) recovered from fill [132] revealed evidence for charred cereal grains, fish, charcoal, mouse, vole and frog/toad. A smaller circular cut, [159], lay 1.8m to the east of pit [133] (base 16.02m OD). Interpreted as a post-hole, its fill [158], whilst very similar to that of pit fill [132], also appeared identical to the fill of ditch [145].

A further, possibly contemporary, phase of activity was also present in the evaluation trench (again, to the north of the aforementioned ditches). Here, a group of pit/post-hole features was recorded (cuts [127], [131], [149], [147] & [154]). The largest of these cuts, [149], thought to be a pit, was situated within the fill of ditch [145]. In plan, pit [149] was revealed to be sub-rectangular (1.8m x 1m, NE-SW) with vertical, 1m deep, slightly undercut sides and a slightly rounded base (top 16.02m OD, base 15.01m OD). Three fills were present in the pit, [173], [152] & [148]. The earliest fill, [173], consisted of a clean, slightly clayey silt indicating that the feature may have been exposed for a period of time before its infilling (this is partially borne out with the results from the analysis of a sample (10), in which Daphnia were noted). The secondary and tertiary fills, [152] and [148], were similar (mid grey-brown slightly clayey silts). A sample of fill [152], (13) revealed charred cereals, pulses, hazelnut and blackberry along with cattle, sheep and fish (interestingly, remains of house mice were present and may indicate dwellings close by). A quantity of daub and charcoal was also recovered from the fills of the pit and supports the dwelling theory.

Plate 4: Trench 9 looking north-east (scales are 1m). View showing the concentration of Saxon features which lay to the north of the curving boundary ditches.

A similarly shaped, sub-rectangular cut, [147], lay 1m to the south-east of [149]. Cutting through the fill of ditch [162], [147] had near vertical sides and a slightly rounded base (top 16.15m OD, base 15.57m OD). Its fill, [146], was similar to [148] but also included a large quantity of limestone brash

along with some animal bone. It is suggested that the stone represented post-packing, and would appear to indicate that this feature was a post-pit. A third post-hole [154], of similar proportions to [147], lay 2.5m to its south-west between ditches [157] & [162] (top5.53m OD, base 15.36m OD). Its fill, [153], contained daub and charcoal but not the quantity of stone as was found in the fill of cut [147]. Close to the north-west corner of the trench, truncating pit [133], was pit [127]. Circular in plan and measuring *c.* 1.4m in diameter and 600mm deep, the pit had 45-degree, concave sides and a north-south aligned slot in its base (top 16.10m OD, base 15.70mOD). The fill of the pit, [126], a mid grey/brown slightly clayey silt contained daub and charcoal as well as some bone and pottery fragments dating to the late Saxon period. A post-hole ([131]) lay 1.5m to the south-west of pit [127]. Oval in plan, [131] measured 600m (north-south) x 470mm (east-west) and was 240mm deep (top 16.02m OD, base 15.77m OD). Its fill, [130], a compact, mid-dark grey/green slightly clayey sand/silt contained infrequent cornbrash, charcoal flecks and a few animal bones.

Unstratified finds recovered from the spoil of the trench included an Early Neolithic flint blade, large fragments of Roman tile (possibly reused), pottery dating to the early-mid 13th century and 41 animal bones (context [120]).

Archaeological deposits recorded in the east-west arm of Trench 9, revealed a very different stratigraphic sequence. Here, evidence indicating the position for two ponds was recorded. The earliest, [171], cutting through subsoil [163], was in excess of 7m across (east-west) and *c.* 1.4m deep with 45-degree concave sides and a gently sloping 'U' shaped base (top *c.* 15.56m OD, base 14.36m OD). Primary deposits in the pond, [172] & [181], were firm-loosely compact, mid grey silts containing frequent organic inclusions. An environmental sample (8), context [181], was revealed to have exceptionally good survival of plant remains, wood, beetles and waterfleas, as well as fish and mammals bones. Sealing these primary deposits were a series of fills (ascending order – [170], [169] and [168]) which may representing the gradual silting up of the pond, or an intentional back-filling event. Fill [170], a mid-dark grey/brown silt contained charcoal, shell fragments, animal bone, small flecks of burnt clay and pottery dating to the late 12th to early 13th century. The two remaining fills [169] and [168], clayey silts, produced frequent charcoal and small fragments of limestone cornbrash (fill [168] also produced residual middle Saxon pottery).

Pond [171] was truncated to its east by a further pond, [179]. A 14m wide section of this second pond was exposed. Approximately 700mm deep, the pond had 60-degree, concave sides and a gently curved base (top *c.* 15.70m OD, base 14.32m OD). The earliest deposit recorded in the pond was [178], a dark brown silt mixed with natural pale yellow sand containing occasional organic material (twigs). Overlying [178] was [177], a firm, very dark brown clayey silt with very frequent wood fragments, animal bone and charcoal inclusions. Environmental information recovered from the analysis of a sample (9) from [177] revealed it to be rich with information and included wood, uncharred plant remains, seeds, beetle fragments and waterfleas, as well as various fish, rodent and animal bones. Sealing [177] was fill [176], a dark brown silty/sand with some clay contained frequent animal bone (30 pieces) including a complete pig skull (boar) along with 13th century pottery. The final deposit associated with pond [179] was [187], a firm, yellow/brown slightly clayey silt containing occasional charcoal and cornbrash fragments.

A spread of cornbrash fragments ([175]) was present cutting in to pond fill [176], close to the pond's western edge. A north-east south-west aligned stone land drain, [174], cut through [175]. Topsoil [180] represented the latest deposit present in the trench (east *c.* 15.77m OD, west *c.* 16.16m OD). Finds recovered from the spoil generated during the excavation of the arm to Trench 9 included a quantity of animal bone and late 12th-early 13th century pottery.

TRENCH 10 (Figs. 2, 7, 8 & 12)

Trench 10 (measuring 10m^2 and approximately 1m deep) was located on top of the rise at the north end of the site. Excavation of Trench 10 revealed deposits of natural sand ([072]) at 19.63m OD (at the north-end of the trench) descending to 19.22m OD to the south.

The earliest archaeological deposit was, [068], a loosely compact, fine mottled light brown-light yellow/brown sand containing occasional charcoal flecks as well as flint of Early Neolithic to Late Neolithic-Early Bronze Age date (top of deposit - north 19.90m OD, south 19.06m OD). An extensive, 800mm thick subsoil, [069], consisting of dark yellow/brown sandy soil containing frequent charcoal flecks, pebbles & cornbrash, overlay [068] (north 20.76m OD, south 20m OD). Artefacts recovered from the subsoil included, 3 flints (probably Early Neolithic), a wide range of pottery spanning the Saxon to late medieval periods and 53 pieces of animal bone.

The cleaning and subsequent recording of the trench sections revealed several pit and linear features to be present in this area. The western trench section revealed three irregular cuts of unknown function, [077], [079] & [081] (top *c.* 20.60m OD, base 20.10m OD). Their fills [076], [078] & [080], light-mid brown very sandy silts contained infrequent charcoal, fragments of cornbrash as well as some animal bone. Two further features, a pit, [063], and a narrow, north-east gully, [065], lay against the north-east corner of the trench. Section information suggested [063] to be at least 1.9m wide (north-south), *c.* 2m long (east-west) and up to 500mm deep (top 20.70m OD, base 19.75m OD). The feature appeared to have 45-degree concave sides and a flat base. Its fill, [062], contained some mid Saxon pot, whilst the analysis of a sample of the fill (13) produced charred cereal, pig, rodent and fish remains as well as a little hammerscale. Gully [065] lay parallel with cut [063] and was 2m+ long, 200mm wide and up to 400mm deep (top 20.06m OD, base 19.80m OD). Its fill, [064], a light yellow/brown sandy silt contained a few fragments of pot (Roman & early/mid Saxon) and some animal bone. Interpretation of these two features may suggest the presence of a structure, the form of which was unclear (possibly a Sunken Featured Structure, the gully may represent an eaves-drip). A further gully/ditch, [070], lay close to the south-east corner of Trench 10. Aligned north-south, a 3m length of the gully was exposed in the base of the evaluation trench (the feature may have continued further to the north but truncation by modern intrusions had obscured this evidence). The gully had 45-degree sides and a flat base (500mm wide and 350mm deep – top 19.24m OD, base 18.95m OD). Its fill, [071], a mid. brown silty soil contained frequent charcoal flecks, an Early Neolithic core rejuvenation, along with a small assemblage of animal bone (13 pieces) and pottery sherds of Roman & early Saxon date. On the same alignment as gully [070], 1.6m to its north, lay a shallow, circular cut, [087], possibly representing a post-hole associated with gully [070] (base 19.28m OD).

Several pit features were recorded in Trench 10. The most notable, [028], lay in the base of the evaluation trench, close to its north-east corner. Measuring *c.* 1.4m in diameter and 200mm deep (base 19.37m OD), the fill of the pit, [027], a mid. grey/brown silty sand contained 2 flints, a large quantity of animal bone (180 pieces), and early Saxon pottery (intrusive sherds of Roman and late medieval pot were also present). The analysis of a sample from the pit fill (3) revealed iron smithing slag and hammerscale, along with charcoal, charred seeds and the bones of cattle, sheep, pig and fish. A large assemblage of rounded pebbles showing evidence of burning and cracking were also recovered from the fill of the pit (their significance was unclear). A further pit ([061]) was visible in the north section of the trench, immediately to the east of the structure formed by pit [063] and gully [065]. In profile, pit [061] was revealed to have 45-degree concave sides and a rounded base (top *c.* 20.26m OD, base 19.70m OD). Its fill, [060], a mid greyish brown sandy soil contained an Early Neolithic core fragment, occasional early Saxon pot, animal bone (23 pieces), and more burnt and cracked pebbles. A similar sized pit was recorded in the south section of the evaluation trench. Here, pit [083], cut in to subsoil [069] (top 20.22m OD, base 19.66m OD). Its fill, [082], contained some limestone fragments of which one piece showed evidence of being burnt.

The west facing section of Trench 10 revealed three large pit features cutting it to the subsoil, pre-dating the obviously modern stratigraphy present. Pit [089], the most northerly of the three, although truncated on its northern side by a recently infilled cut, was 3m+ wide (north-south) and 800mm deep, with 50-degree concave sides and a gently rounded base (top 20m OD, base 19.36m OD). The fill of the cut, [088], a loosely compact, mid brown sandy silt produced no finds, with only frequent rootlets present. The second pit, [085], lay immediately to the south of [089]. [085] was slightly smaller than [089] (3m north-south, top 19.90m OD, base 19.20m OD), and had an identical fill, suggesting that they were probably contemporary. The third pit in this sequence was [182], which lay in the south-east corner of the trench. Revealed to have 40-degree concave sides and a flat to gently rounded base (top 19.83m OD, base 19.20m OD)., [182], was at least 2m long (north-south) and 600mm deep. Its

primary fill, [183], a layer of reed overlain by a 100mm thick deposit of puddled yellow clay, was interpreted as its intentional lining. Two later re-lining events were recorded within the cut. Discussions with the environmental specialist have suggested that this feature may represent a dewpond (a shallow, usually artificial pond) of uncertain, but probably post-medieval, date.

Recent excavation on the site, of a non-archaeological nature, was very evident in the area of Trench 10 ([073]/[074]). Many large cuts were recorded in the trench sections; some extended well into the underlying natural sand. Ground level was recorded at 20.52m OD & 20.20m OD. Finds recovered from the spoilheap ([026]) included 4 flints, Roman-modern pottery and 177 animal bones.

TRENCH 11 (Figs. 2, 9 & 11, Plate 5)

Trench 11 was sited close to the sites south-west corner across a shallow, but wide depression sat on an area of raised ground. Originally intended to measure 20m x 1.5m, the discovery during its excavation, of archaeological features at the trenches southern end, meant that it was extended to *c.* 28m long and widened in the area of the features to *c.* 3.6m (the northern *c.* 20m of the trench was infilled soon after its excavation).

Plate 5: Trench 11 looking south. The complex of features recorded in this trench were revealed to form part of an extensive group of buried anomalies discovered after further geophysical survey was carried out over this slightly higher area at the southern end of the site.

Deposits of natural cornbrash were encountered in Trench 11 at 12.53m OD (north) and 12.19m OD (south). A multidirectional linear ditch cut, [042,050,056,059], was recorded cutting in to the natural, entering the evaluation trench from its west side. On entering the trench, the ditch immediately turned south for a distance of approximately 5m. At this point the path of this feature became more obscure, appearing to continue to the south as well as west and possibly north (see plan). In profile the ditch was revealed to be 1.5m wide and 700mm deep with sides ranging from 45-degree to 80-degree's (top 12.66m OD, base 12.03m OD). Two dump deposits, [047] & [048] (loose compaction, light yellow/brown sandy soils) were identified as being associated with the ditch feature (derived as a result of up-cast from the excavation of the ditch – top 12.60m OD). These were sealed by a further dump deposit [051], a light-mid brown sandy clay with frequent cornbrash inclusions (north 12.80m OD, south 12.48m OD). Given the limitations of the evaluation a definitive stratigraphic sequence for the infilling of the ditches was not possible. A section excavated across the ditch at the point where it

entered the trench from the west, revealed [054] as its primary fill. Deposit [054], a mid-dark brown sandy clay containing very frequent (50%) limestone cornbrash, was revealed to fill the base of the ditch cut and extend partially up the ditches southern side, sealing in part, up-cast deposit [047]. A deposit of mid yellow/brown silty clay, [043], constituted the tertiary fill of the ditch in this area. Finds recovered from [043] included residual prehistoric flint and some late Saxon pottery (residual and intrusive pot spanning the Roman to the 18th century was also present). Excavation towards the southern end of the evaluation trench revealed deposit [043] to represent the primary fill of the ditch. A sample taken from [043], contained little information revealing only a few flakes of hammerscale, sheep bone and a few mollusc shells suggesting a grassland environment. In turn, [043] was overlain by [058], yellow/brown silty clay containing frequent cornbrash fragments. Remaining fills included. [049], [057] & [052].

A pit feature, [044], was recorded cutting in to fill [057] (base 11.97 OD). Its fill, [045], a mid yellow/brown silty clay produced a pottery sherd thought to date to the Roman or late Saxon period. A small cut, possibly a post-hole, [055], was located cutting in to deposit [047], 1m north of fill [057] (12.26m OD). A 20mm thick deposit of light-mid brown sandy clay ([051]) with frequent cornbrash inclusions overlay the aforementioned deposits (the cornbrash having deposited here as a result of ploughing). This was in turn sealed by a 300mm thick topsoil deposit ([046] - 12.86m OD north and 12.65m OD south). One flint and one Roman potsherd, both unstratified, were recovered from the spoil of the trench - context [041]).

6.0 CONCLUSIONS

a) Summary of significant results

The Cherry Willingham evaluation has identified five chronological phases of occupation present on the site spanning the prehistoric (Early Neolithic) to late medieval periods. The following summary discusses the probable archaeological sequence at this site and, where appropriate, highlights the potential for further research.

Phase 1 - prehistoric

new site

Although it was not possible to ascribe any of the features found during the evaluation to actual prehistoric occupation of the site, a large assemblage of flints was recovered. The distribution of these artefacts suggests that the area of high ground at the northern end of the site lies on, or close to, an unspecified area of prehistoric occupation.

Phase 2 - Roman

edit 52852

As with Phase I, evidence for Roman occupation on the site was present. However, it was unclear as to the original source of this material. It may be possible that the small quantity of Roman material found during the evaluation derived from a Roman site situated immediately to the south-east of the development area.

Phase 3 - Saxon

Evidence for occupation spanning the early-late Saxon periods was recorded during the evaluation of the site. However, the full extent and nature of this occupation remains unclear, partially due to the limited size of the evaluation trenches and, more so, the nature of the soils present on the site (their fine composition allowing the downward migration of artefacts, as well as speeding up the erosion of features, eventually obscuring their profiles). The majority of features assigned a Saxon date lay on the higher ground to the north of the site. At the highest point (Trench 10) refuse pits made up the majority of the features. However, two gully features were recorded and may represent dwellings or similar buildings. Further substantiating the evidence recovered during excavation work in 1980 approximately 30m to the north of the site.

edit 52864

Deposits and features recorded lower down the hill-slope (Trenches 7 & 8) appeared to indicate either drainage and/or land division functions, with a few pit and narrow gullies also present. It was unclear whether structures were present in this area, although, some of the gullies recorded may also be associated with dwellings of indeterminate form or function. Excavation within Trench 9 (against the western boundary of the site) revealed several types of archaeological feature. The most prominent was a group of four curvilinear ditches crossing the site from south-west to north-east. Little dateable material was recovered from these ditches to secure a firm date for their excavation or subsequent infilling, but a Saxon date appears likely. What was clear however, was that they defined the southerly extent of occupation in this part of the site, with no features being present to their south. Interpretation suggests that the ditches have a boundary, and possibly, a drainage function. Unfortunately, no definite evidence was forthcoming during the evaluation to enable the continuing line of these ditches to be properly established.

Several phases of pit and post-holes were recorded lying in the area to the north of the aforementioned ditches The quantity of daub and pottery found associated with these features may suggest that buildings lie close-by. However, although post-hole alignments were established during the evaluation, no conclusive evidence for buildings was recorded as the post-holes were just as likely to represent stock fencing or other structures (this interpretation was always likely given the relatively small size of the evaluation trench).

Phase 4 – Medieval

Medieval occupation on the site was primarily concerned with the fishponds and ditches associated with the medieval manorial complex. The existing pond on the site forms part of this once extensive group of features. Direct associations with features recorded during an earthwork survey of the site carried out by the RCMHE, can be made here. The large re-cut pond found in Trench 9 appears on the survey as does an east-west ditch recorded at the northern end of Trench 7. The large east-west ditch found at the southern end of the site, initially during the geophysical survey of Area A, is also shown on the survey drawing. The ditch runs eastwards until eventually joining with a further ditch still forming the site's eastern boundary. The RCHME survey drawing also shows a north-south ditch extending south from the pond complex, adjoining the aforementioned, southern, east-west ditch. The position of this ditch, when placed over the evaluation trench location plan, is revealed to have been transected by evaluation trenches 4 & 5. Approximately 60m of this ditch also fell within the area of geophysical survey Area A. Interestingly, the geophysical survey did not reveal this ditch, nor did the excavation of the evaluation trial trenches. It is probable therefore, that the ditch has been destroyed as a result of post-medieval ploughing of the field (its apparent absence from the trial trenches suggests that it was shallow, as it did not appear to cut in to the underlying natural strata).

Evidence suggesting the presence of east-west aligned ridge and furrow was found in Trenches 3 & 4, and revealed as slight ridges in the underlying natural cornbrash (*c.* 1.3m – 2.3m between ridges). Whilst the earthwork survey of the site does record ridge and furrow, it also indicates that it is aligned north-south and not east-west as the evaluation appears to suggest. The geophysical survey of Area A revealed no evidence supporting either north-south or east-west ploughing. It may be possible therefore that later, 20th century farming has completely obliterated any evidence for the north-south ridge and furrow, and that the possible east-west ridges found during the evaluation represent an earlier, undated, phase of agricultural activity (Saxon?).

Phase 5 - Post-medieval to Modern

Evidence for post-medieval and later occupation on the site was primarily recorded on the higher ground. Here, evidence for substantial excavation was present in the form of large, recently infilled cuts. Much of the late material recorded in the trenches was thought to have been derived from the demolition of the large poultry farm (located to the north of the site and demolished during the 1970's) as well as building debris associated with construction works previously undertaken on other parts of the site. Interestingly, observations made during a watching brief currently being carried out on the remaining elements of Phase VI of the development have revealed, beneath Plot 121 (at the base of the hill-slope at the far eastern end of the development) over 1.5m of recently deposited

material derived from the building of the development's earlier phases of construction (these soil dumps overlay cuts associated with the medieval fishponds).

Discussion

The fine sandy nature of the subsoil present on the site, especially on the hill-slope to its north, and the various soil processes that it has been subject to, makes it extremely difficult to establish the position of archaeological horizons relating to the site's various periods of occupation. In the main, this evaluation only revealed its archaeology when the bases of archaeological features had cut deep enough to be revealed as dark patches in the surrounding natural. Subsequently many archaeological features may have been lost during the machine excavation of the evaluation trenches.

Although no stratigraphic evidence for pre-Roman and Roman occupation was uncovered, the quantity of pre-Roman artefacts recovered during the evaluation has meant that its presence in the area cannot be completely dismissed. The quantity of flints recovered from the area of the hill-slope points to the probability of prehistoric occupation here (examination of the flints has determined that they represent the Early Neolithic and Late Neolithic/Early Bronze Age periods - See Appendix 3).

Roman occupation has been recorded in various places around the site. It is not unexpected to find a few Roman artifacts during the course of the site evaluation, especially considering its proximity to the known Roman site located immediately to the site's south-east.

Deposits and features associated with the Saxon occupation of the site were found to be widespread in the northern part of the site, primarily occupying the higher ground. Although extensive, the full extent and function of these features cannot be fully interpreted owing in part, to the small scale of the evaluation and the nature of soils on the site. Pottery spanning the early to late Saxon periods does however, indicate a continuation of settlement on the site. Slag recovered from the evaluation also suggests light industrial activities were carried out here as well as indications for domestic occupation in the form of refuse pits, post alignments and possibly, dwellings. The network of ditches recorded on the hill-slope may have an agricultural association and may have had an enclosure and/or drainage function.

The nature and date of the features recorded within Trench 11 remains unclear. The results from the second area of geophysical survey (B), has concluded that the area evaluated by Trench 11 lies over a small part of a much larger complex of features, comprising many linear anomalies, including a 20m^2 rectangular 'enclosure' feature and possible metalworking areas. Datable material recovered from Trench 11 is inconclusive and only further investigation will be able to clarify the date and function of the anomalies recorded in this area.

Medieval use of the site would appear to centre on the fishponds and their associated ditches. Evidence for ridge and furrow aligned north-south (the presence of which was located on the RCHME survey drawing on the site) was not found and suggests that it may therefore have been destroyed by more recent, intensive ploughing of the site. The slight evidence for east-west ridge and furrow, recorded in the central part of the site during the evaluation, may be associated with the medieval period; however, it is in direct conflict with the RCHME evidence so an earlier date for its construction cannot be discounted.

The full scope of post-medieval occupation on the site is unclear. However, if present, an agricultural association would appear probable. Modern activity on the site is primarily associated with the on-going development of the 'Hawthornes' residential estate.

b) Potential for Further Research

The following paragraphs assess the data collected from the site, and highlight its potential to further our archaeological and historical knowledge. The data collection was limited by the size of the evaluation trenches. Assessment is based on the stratigraphic, structural and finds data recovered. For

a more detailed insight in to the assessment of the finds data please read Appendix 3 – Finds Assessment Reports.

Analysis of the prehistoric data has revealed it to have a low potential for furthering our knowledge of prehistoric occupation on, or in close proximity to, the site. Although the flint assemblage recovered would certainly indicate the presence, somewhere on the higher ground, of prehistoric occupation, the artefacts found during the evaluation and ascribed to this period are not uncommon and without associated features being present or identified, few conclusions can be drawn. The process of soil erosion and the apparently widespread excavation and soil moving during later periods of activity on the slope of the hill, have obscured any prehistoric occupation horizon present in the subsoil. This would make any further archaeological excavation on the site extremely difficult and time consuming, if features of a prehistoric date were to be targeted for further excavation.

Evidence for the occupation of the site between the 6th to 11th centuries has a high potential to further our understanding of the Saxon period, and can be seen as being of regional as well as local importance. Anglo-Saxon settlement in Lincolnshire during the period immediately after the departure of the Romans has, for the most part, been difficult to study. Whilst Saxon settlements are not rare, few have been adequately excavated and even fewer can demonstrate a continuity of occupation spanning the entire 'Anglo-Saxon' period. For the most part, the full extent of these settlements remains unknown, as is the range of building types and activities carried out on them. Evidence supporting the presence on the site of buildings (sunken-featured structures) along with many post-holes which might indicate the presence of other timber structures, has been recorded. This information may provide important evidence for structural trends relating to different phases of the sites occupation. Analysis of the stratigraphic and structural data from the evaluation has also revealed it to have the potential to answer further questions related to this period. The apparent continuity of Saxon occupation on the site is rare and therefore important to our understanding of the nature of the development of Saxon settlement.

The diversity of features present would appear to suggest a variety of activities being undertaken on the site. Environmental evidence recovered from the fills of pits has indicated that important information regarding the local Saxon environment survives and can be viewed as having local, if not regional, importance.

Medieval use of the site centres on the complex of fishponds and ditches. The stratigraphic data ascribed to this period of activity has a low potential to further our understanding beyond a basic level. Whilst fishpond earthworks of this date are not uncommon, with many examples still surviving, it must be borne-in-mind that continuing countrywide development has meant the destruction of many medieval earthworks. The Cherry Willingham fishponds were described in the RCHME publication, *Change and Continuity*, as having "*a very elaborate system of water control.*" and were identified as "*worthy of preservation*". Since the publication of the aforementioned survey, most of the Cherry Willingham earthworks have been infilled and/or destroyed, with the pond the only surviving remnant (the pond was identified as containing a colony of Great Crested Newts, a protected species, and as a result, is to be retained as a feature of the development). Analysis of the environmental information recovered from the ponds has indicated that their waterlogged nature can provide information of significant local importance. The well-preserved material from these deposits has considerable potential for a detailed palaeoloenvironmental reconstruction of the site during the medieval period.

7.0 IMPACT ASSESSMENT

The Cherry Willingham evaluation has provided, from the results of the localised trial trenching, enough information to state at what depths below existing ground level archaeological deposits are likely to occur. However, as the site lies over three distinct topographical areas, the actual depth below ground level where archaeology will be encountered can only be established during any subsequent work on the site.

The three topographical areas are (see Fig. 2):

Area A - the area encompassing the rising ground at the northern end on the site (the area to the north of, and including, Trench 7).
Area B - the central area of the site (north of Trench 11 and south of Trench 7).

Area C - the area of slightly higher ground at the south-west end of the site (area around Trench 11).

The following table sets out approximate depths below ground level where archaeological deposits are thought to occur (given the topographical variations and the unknown impact of later, more recent work on the site, stated depths may vary from area to area).

Area	*Minimum Depth Below Ground Level*	*Maximum Depth Below Ground Level*
Area A	400mm (T10)	200mm (T7)
Area B	200mm (T2)	220mm (T6)
Area C	220mm (T11)	300mm (T11)

8.0 ACKNOWLEDGEMENTS

The City of Lincoln Archaeological Unit would like to thank Lindsey Securities Limited for funding the evaluation and post-fieldwork analysis, especially Mrs R and J Taylor. Thanks are also extended to Mr R Harrison (Contracts Manager) & Mr. K Dixon (site manager) for their help and assistance throughout the duration of archaeological works. CLAU would also like to thank Mr J Bonnor (Archaeological Officer to the local planning authority) for his assistance and guidance. Access to the Sites and Monuments Record Office (Lincoln) was permitted by Mr. M Bennett.

Project Team CLAU

Michael Jarvis	Project Officer (Field & Post-excavation)
Yvonne Rose	Finds Supervisor/Site Assistant
John Hockley	Project Manager
Mick Jones	Editor
Jenny Mann	Registered Finds & Ceramic Building Materials

External Specialists

Barbara Precious	Roman pottery (Freelance)
Claire D Angus	Roman & later Tile (Lindsey Archaeological Services - LAS)
David Bunn	Geophysical Survey - (Pre-Construct Geophysics - PCG)
James Rackham	Environmental & Animal bone - (The Environmental Archaeology Consultancy)
James Snee	Geophysical Survey - (PCG)
Jane Young	Post-Roman & later pottery - (LAS)
Jenny Brown	Lithics (Flint) - (Trench & Peak Archaeological Trust)

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NOTE

The information in this document is presented with the proviso that further data may yet emerge. The Unit, its members and employees 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 terms of the Unit's Articles of Association, the Code of Conduct of the Institute of Field Archaeologists.

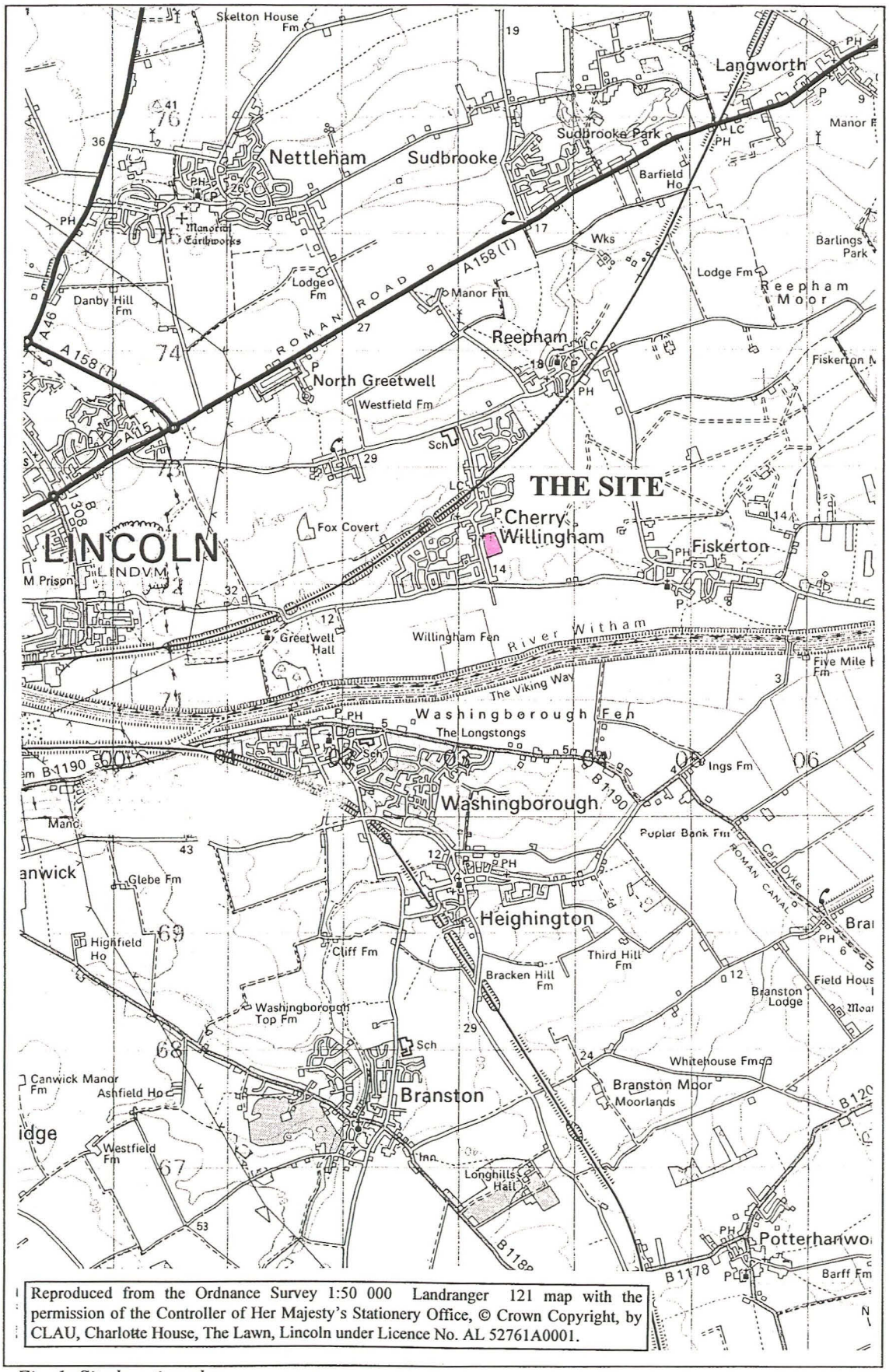

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Fig. 1: Site location plan.

Fig. 2: Trench location plan showing the proposed development and the results of geophysical survey areas A & B and the position of the medieval fishponds.

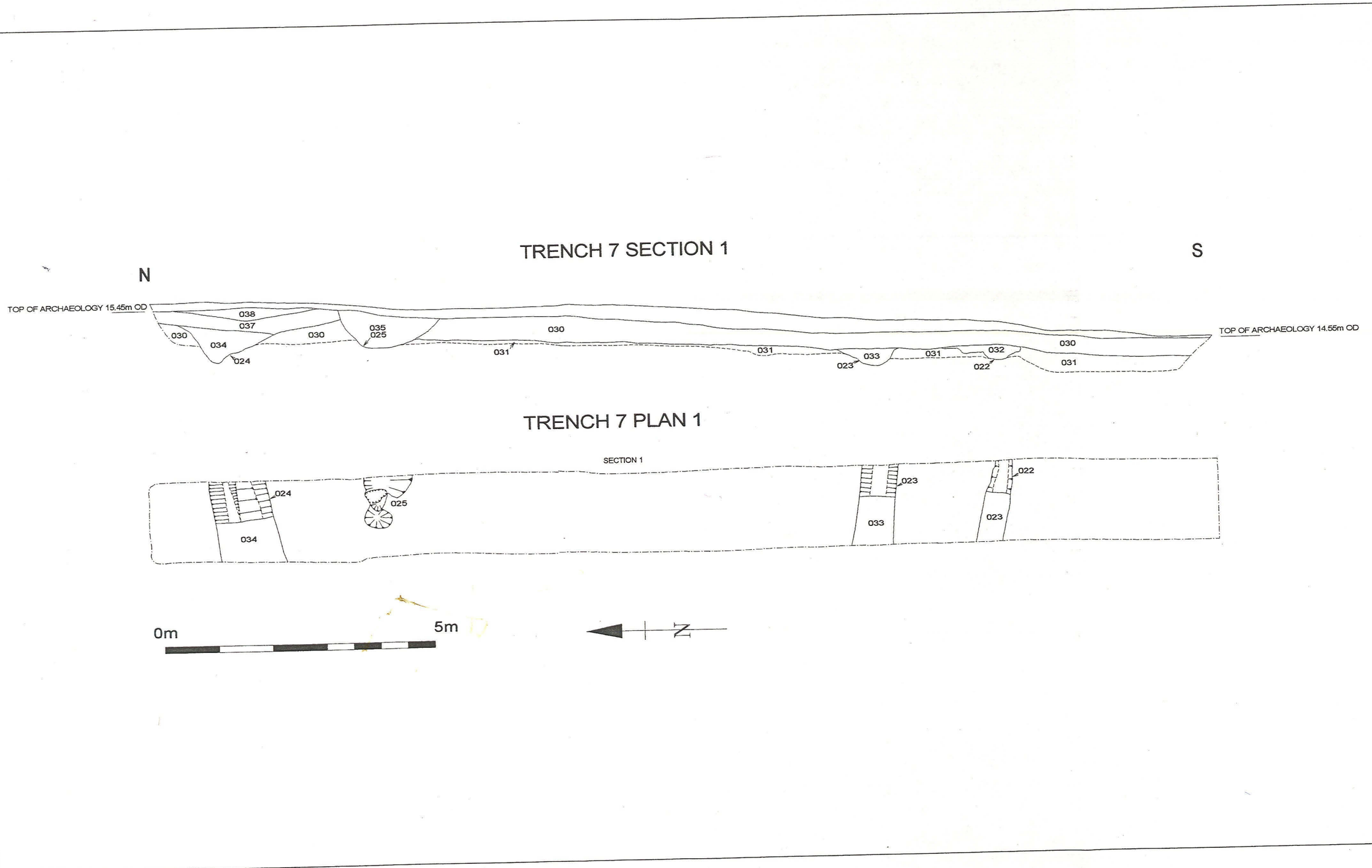
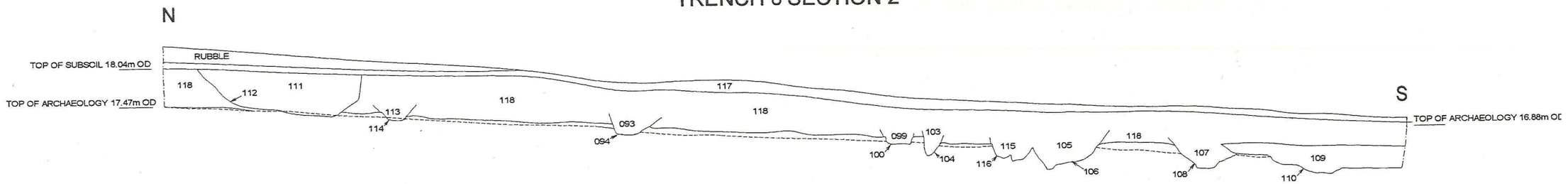


Fig. 3: Trench 7 - Section 1, Plan 1.

TRENCH 8 SECTION 2



TRENCH 8 PLAN 2

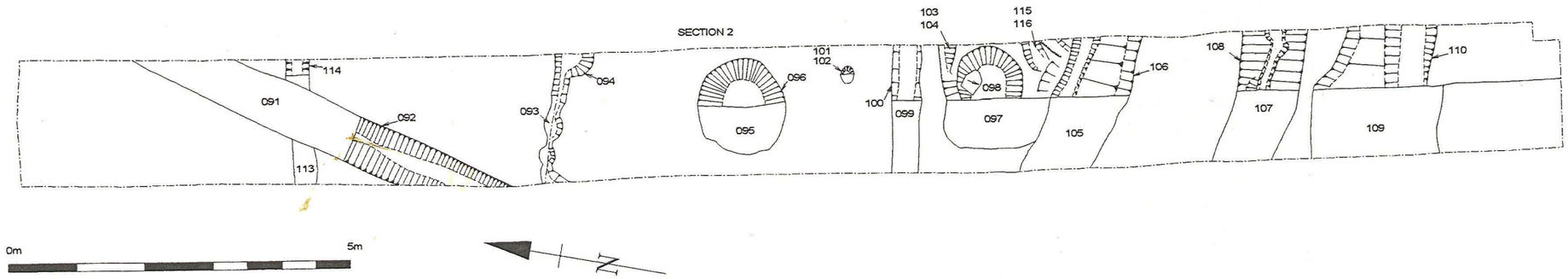


Fig. 4: Trench 8 – Section 2, Plan 2.

TRENCH 9 PLAN 3

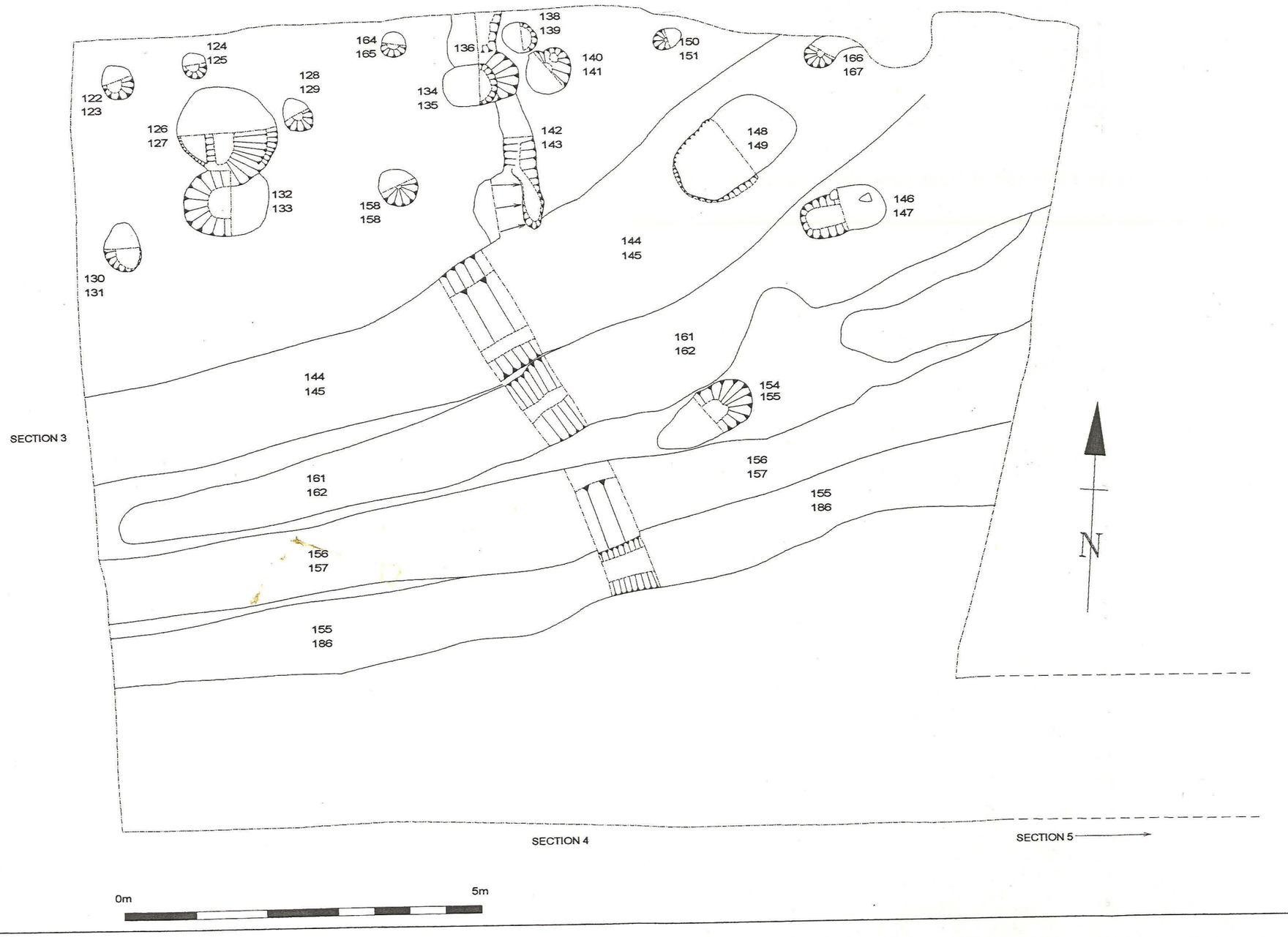


Fig. 5: Trench 9 – Plan 3.

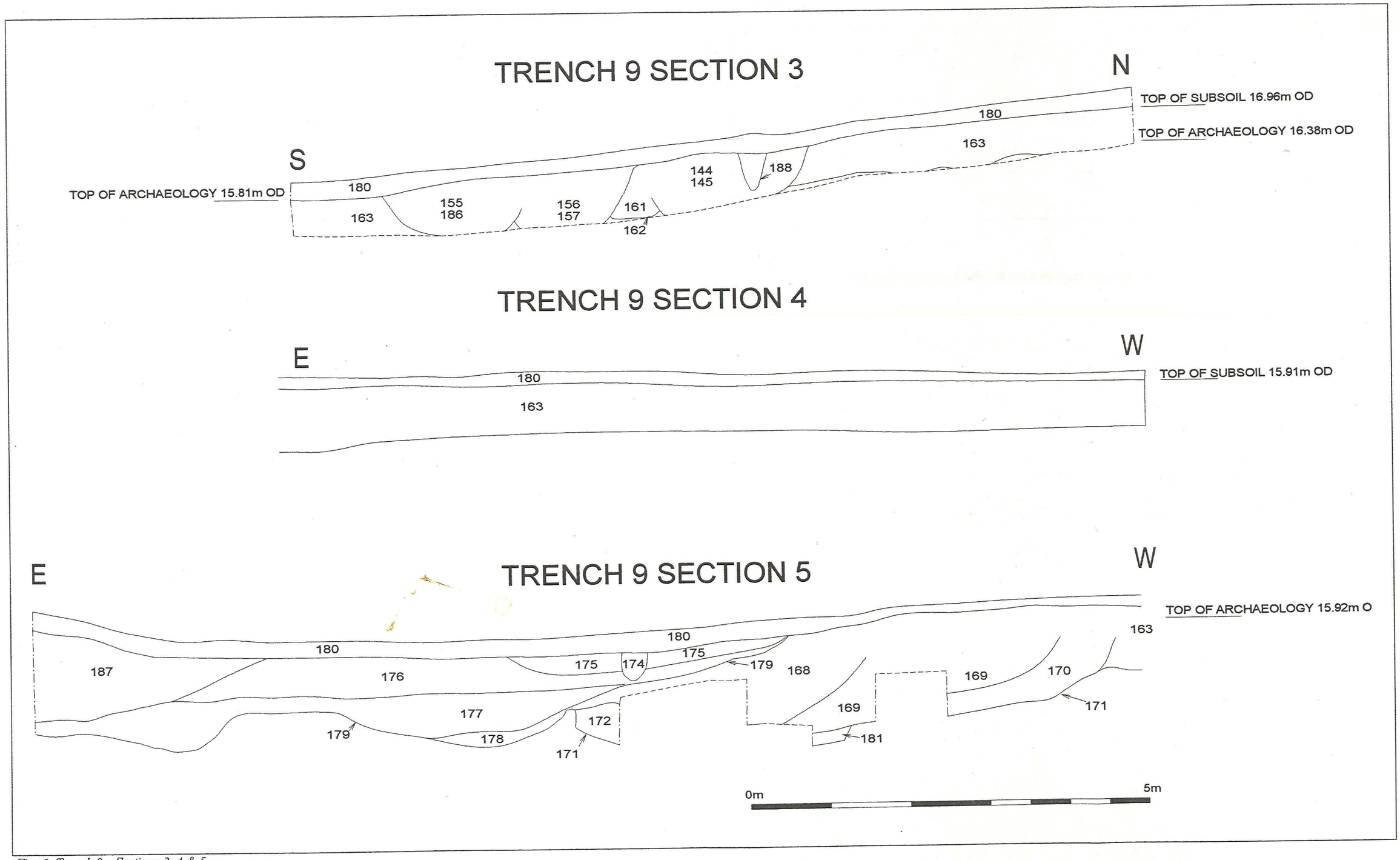


Fig. 6: Trench 9 – Sections 3, 4 & 5.

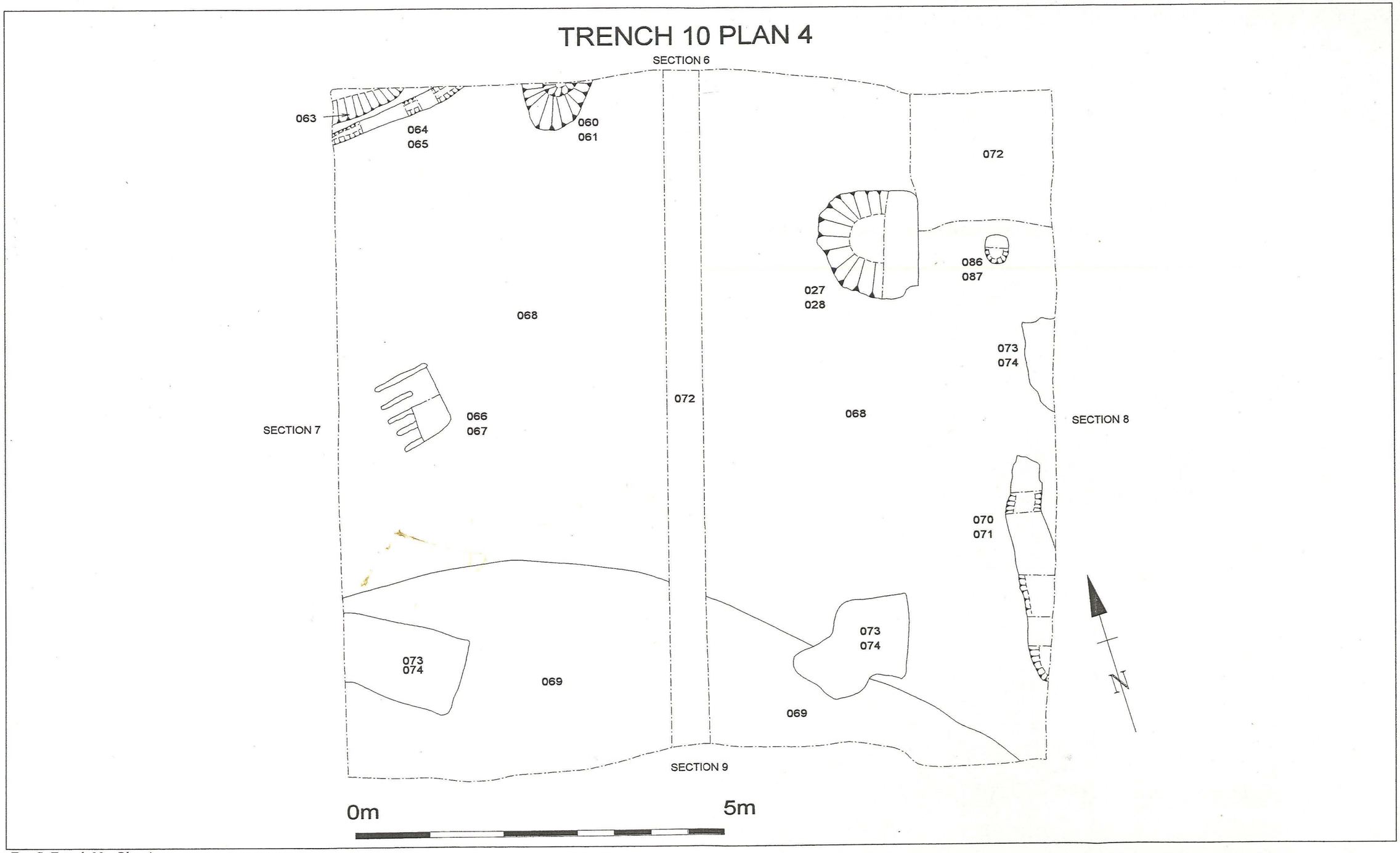


Fig. 7: Trench 10 – Plan 4.

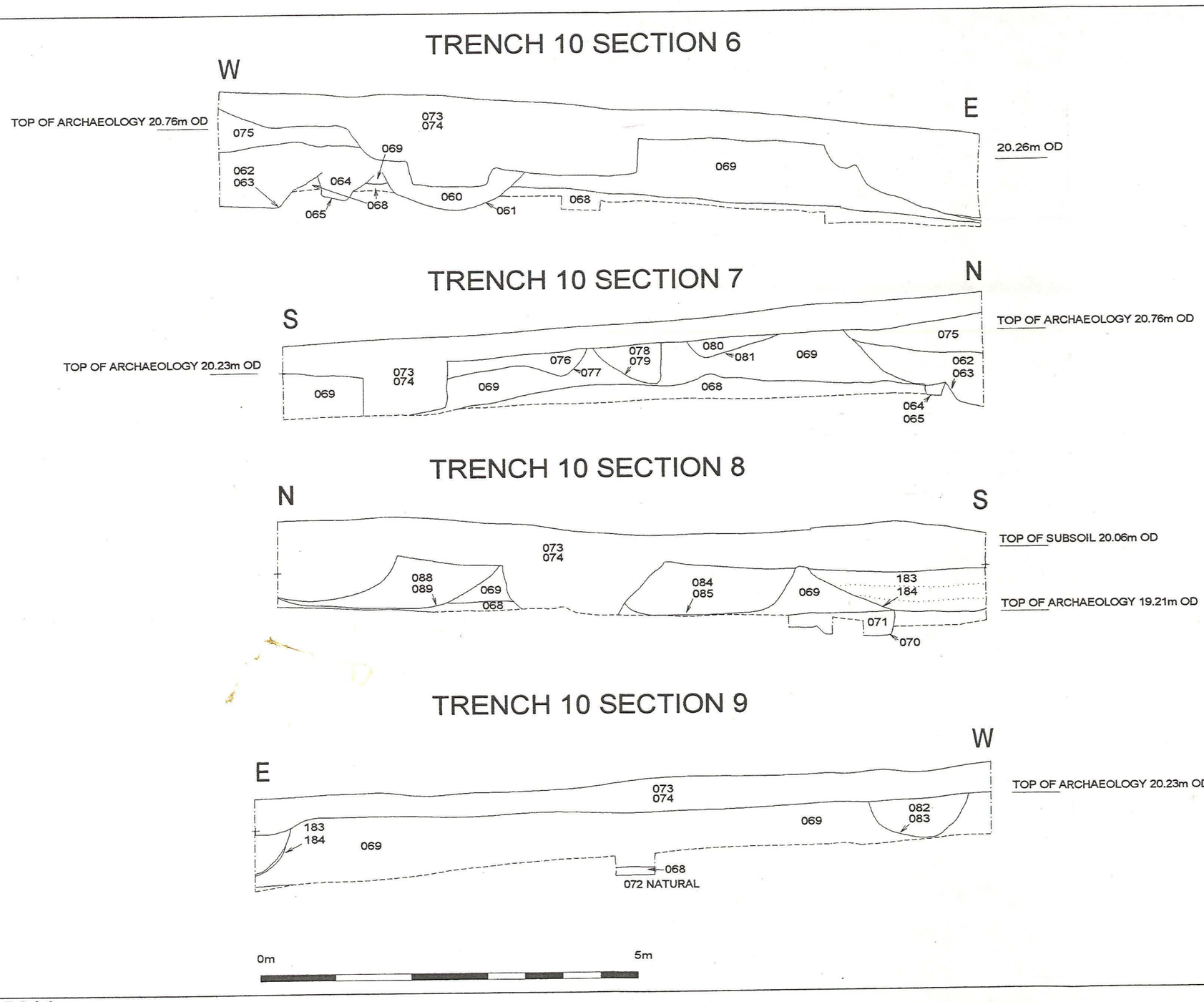


Fig. 8: Trench 10 – Sections 6, 7, 8 & 9.

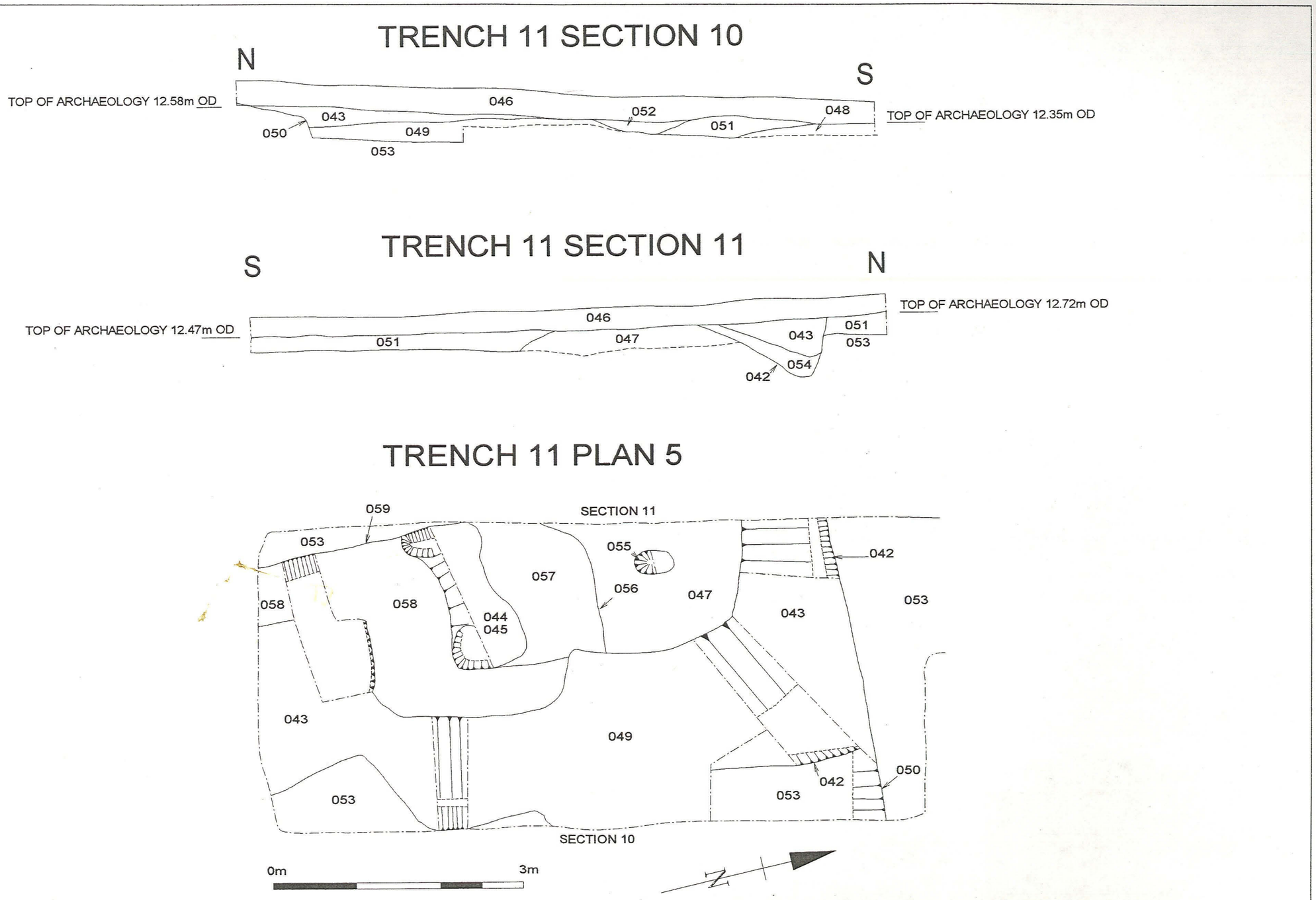


Fig. 9: Trench 11 – Sections 10 & 11, Plan 5.

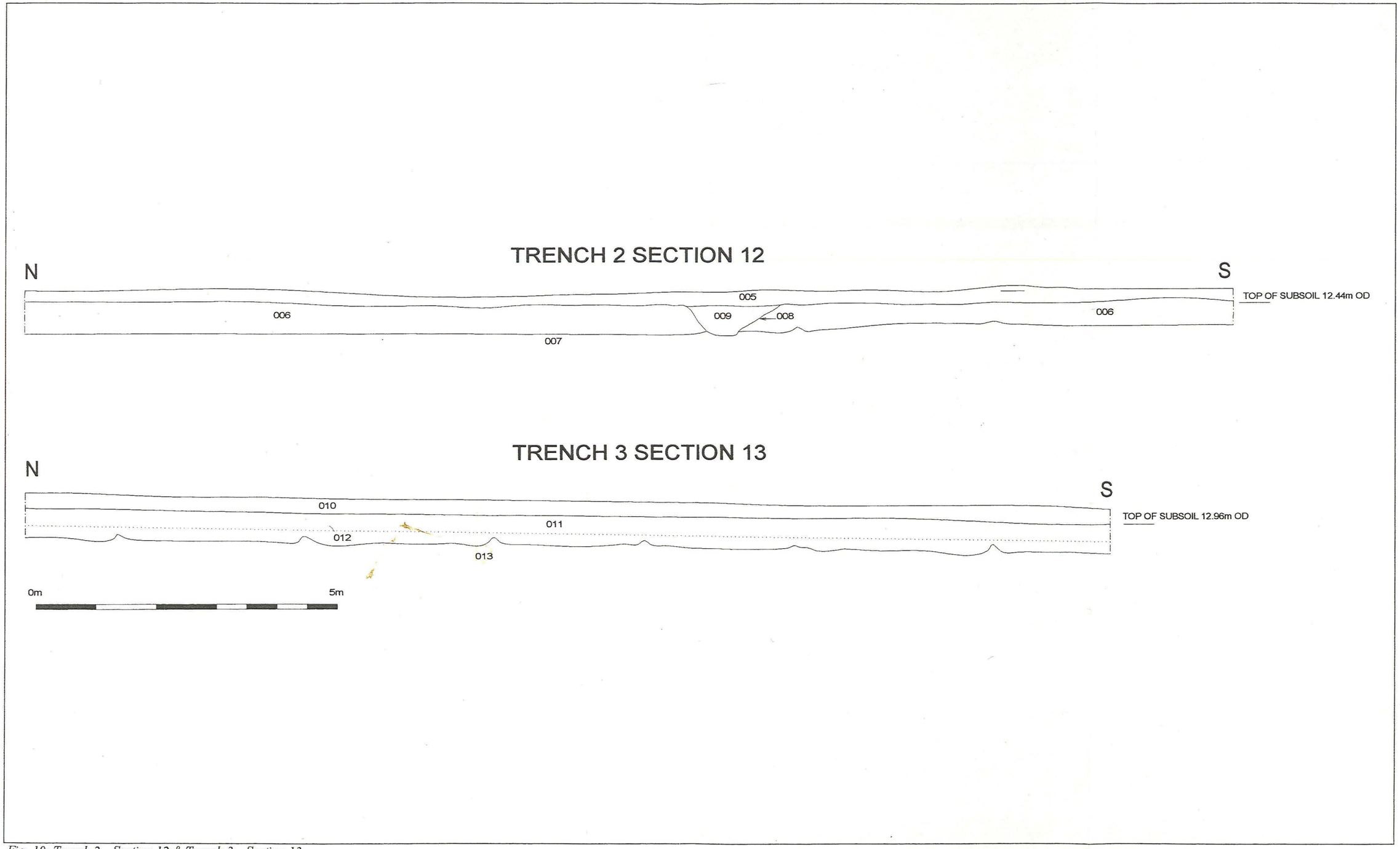


Fig. 10: Trench 2 – Section 12 & Trench 3 – Section 13.

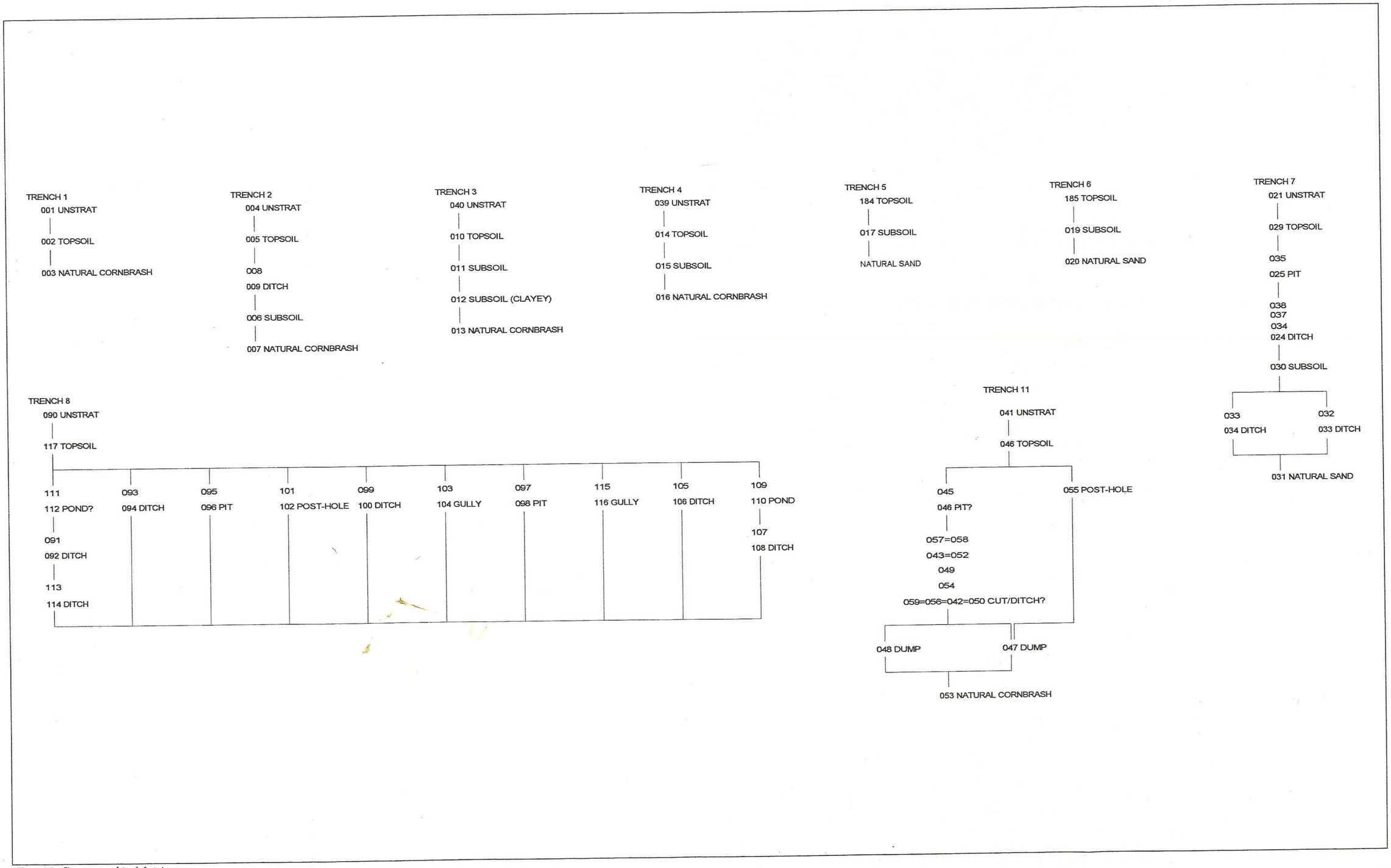


Fig. 11: Stratigraphic Matrices.

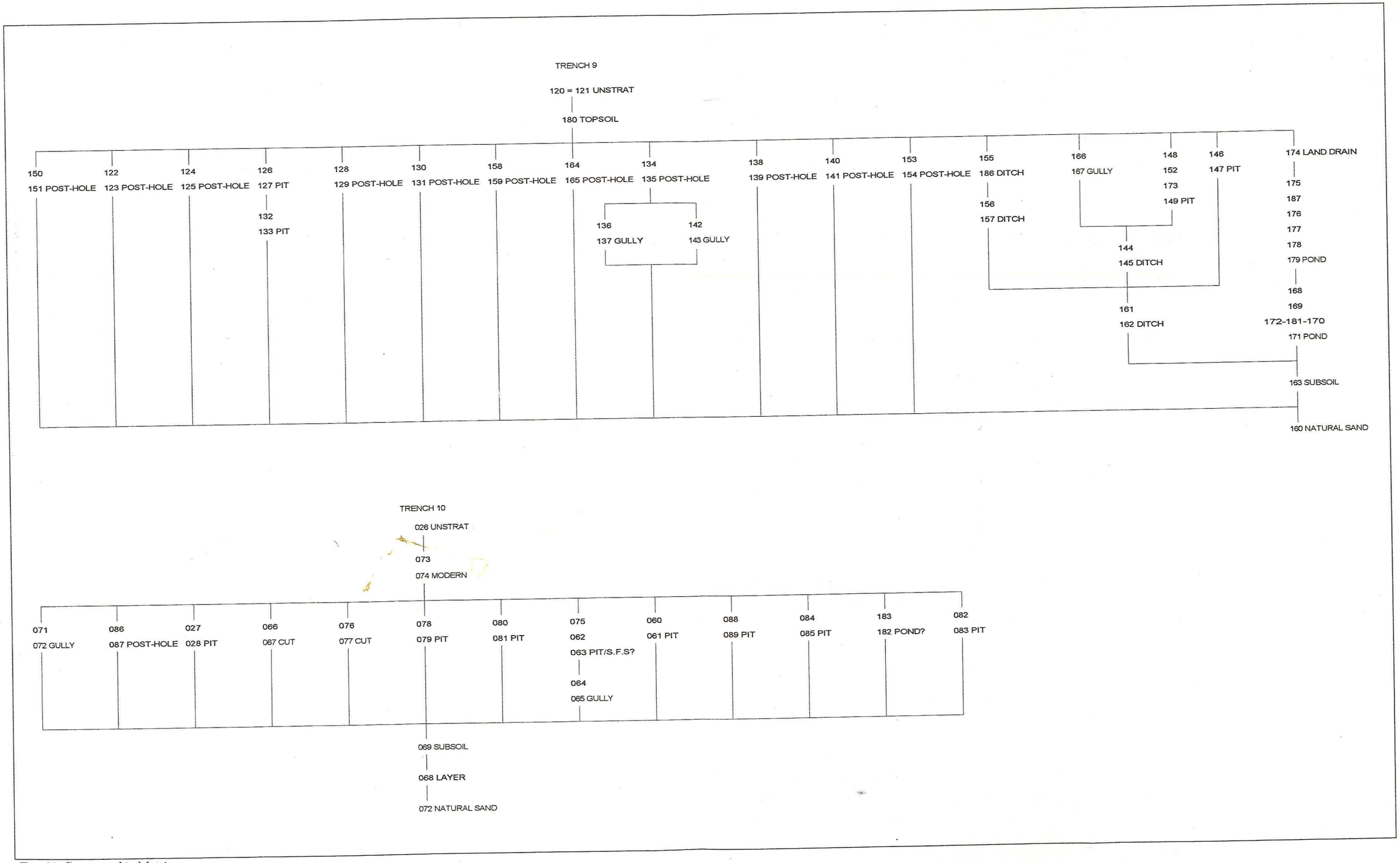


Fig. 12: Stratigraphic Matrices.

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 1 - LHA NOTE & ARCHIVE DETAILS

LHA NOTE DETAILS

CLAU CODE: CWCA99

CLAU REPORT No.: 404

PLANNING APPLICATION NO.: N/A

FIELD OFFICER: Michael Jarvis

NGR: TF 0350 7225

CIVIL PARISH: Cherry Willingham

SMR No.: -

DATE OF INTERVENTION: 13/09/99 – 02/11/99

TYPE OF INTERVENTION: Evaluation

UNDERTAKEN FOR: Lindsey Securities Limited, 465 High Street, Lincoln LN5 8BJ

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.: 188.99

ACCESSION DATE: -

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 2 - CONTEXT SUMMARY

Context	*Trench*	*Brief Description*
001	1	Unstratified finds from trench 1
002	1	Topsoil
003	1	Natural limestone brash
004	2	Unstratified finds from trench 2
005	2	Topsoil
006	2	Subsoil
007	2	Natural limestone brash
008	2	Ditch cut
009	2	Fill of cut 008
010	3	Topsoil
011	3	Subsoil
012	3	Clayey subsoil
013	3	Natural limestone brash
014	4	Topsoil
015	4	Subsoil
016	4	Natural limestone brash
017	5	Subsoil
018	5	Natural sand/clay
019	6	Subsoil
020	6	Natural sand/clay
021	7	Unstratified finds from trench 7
022	7	Ditch cut
023	7	Ditch cut
024	7	Ditch cut
025	7	Pit cut
026	10	Unstratified finds from trench 10
027	10	Fill of pit 028
028	10	Pit cut
029	7	Topsoil
030	7	Subsoil
031	7	Natural sand
032	7	Fill of 022
033	7	Fill of 023
034	7	Fill of 024 (primary)
035	7	Fill of 025
036	7	Fill of 025 (primary)
037	7	Fill of 024
038	7	Fill of 024 (tertiary)
039	4	Unstratified finds from trench 4
040	3	Unstratified finds from trench 3
041	11	Unstratified finds from trench 11
042	11	Cut
043	11	Fill of cut 042
044	11	Cut

045	11	Fill of cut 044
046	11	Topsoil
047	11	Layer/dump
048	11	Layer/dump
049	11	Fill of cut 042
050	11	Cut (e-w) part of 042
051	11	Layer/dump
052	11	Layer
053	11	Natural brash
054	11	Fill of 042 (primary)
055	11	Layer/fill (post-hole)
056	11	Cut
057	11	Fill of cut 056
058	11	Fill of cut 059
059	11	Cut
060	10	Fill of cut 061
061	10	Pit cut
062	10	Fill of cut 063
063	10	Pit cut
064	10	Fill of 065
065	10	Gully cut
066	10	Fill of cut 067
067	10	Cut (possibly JCB bucket)
068	10	Layer
069	10	Layer
070	10	Linear cut
071	10	Fill of 070
072	10	Natural sand
073	10	Fill/recently deposited overburden
074	10	Cut for 073
075	10	Fill of cut 063
076	10	Fill of cut 077
077	10	Pit cut
078	10	Fill of cut 079
079	10	Pit cut
080	10	Fill of cut 081
081	10	Pit cut
082	10	Fill of cut 083
083	10	Pit cut
084	10	Fill of cut 085
085	10	Pit/pond cut
086	10	Fill of cut 087
087	10	Post-hole cut
088	10	Fill of cut 089
089	10	Pit/pond cut
090	8	Unstratified find from trench 8
091	8	Fill of cut 092
092	8	Linear cut
093	8	Fill of cut 094
094	8	Linear cut
095	8	Fill of cut 096
096	8	Pit cut
097	8	Fill of cut 098
098	8	Pit/pond cut

099	8	Fill of cut 100
100	8	Linear cut
101	8	Fill of cut 102
102	8	Post-hole cut
103	8	Fill of cut 104
104	8	Linear cut
105	8	Fill of cut 106
106	8	Linear cut
107	8	Fill of cut 108
108	8	Linear cut
109	8	Fill of cut 110
110	8	Cut
111	8	Fill of cut 112
112	8	Pond cut
113	8	Fill of cut 114
114	8	Linear cut
115	8	Fill of cut 116
116	8	Linear cut
117	8	Topsoil
118	8	Subsoil
119	8	Natural sand/clay
120	9	Unstratified finds from main area of trench 9
121	9	Unstratified finds from trench 9 arm
122	9	Fill of cut 123
123	9	Post-hole cut
124	9	Fill of cut 125
125	9	Post-hole cut
126	9	Fill of cut 127
127	9	Pit cut
128	9	Fill of cut 129
129	9	Post-hole cut
130	9	Fill of cut 131
131	9	Post-hole cut
132	9	Fill of cut 133
133	9	Pit cut
134	9	Fill of cut 135
135	9	Post-hole cut
136	9	Fill of cut 137
137	9	Pit cut
138	9	Fill of cut 139
139	9	Post-hole cut
140	9	Fill of cut 141
141	9	Post-hole or tree-bowl cut
142	9	Fill of cut 143
143	9	Linear cut
144	9	Fill of cut 145
145	9	Ditch cut
146	9	Fill of cut 147
147	9	Post-hole cut
148	9	Fill of cut 149
149	9	Pit cut
150	9	Fill of cut 151
151	9	Post-hole cut
152	9	Fill of cut 149

153	9	Fill of cut 154
154	9	Cut
155	9	Fill of cut 157
156	9	Fill of cut 157 (primary)
157	9	Ditch cut
158	9	Fill of cut 159
159	9	Post-hole cut
160	9	Natural sand
161	9	Fill of cut 162
162	9	Ditch cut
163	9	Subsoil
164	9	Fill of cut 165
165	9	Post-hole cut
166	9	Fill of cut 167
167	9	Ditch cut
168	9	Fill of cut 171
169	9	Fill of cut 171
170	9	Fill of cut 171
171	9	Pond cut
172	9	Fill of cut 171
173	9	Fill of cut 149
174	9	Stone land drain
175	9	Stone layer
176	9	Fill of cut 179
177	9	Fill of cut 179
178	9	Fill of cut 179 (primary)`
179	9	Pond cut
180	9	Topsoil
181	9	Fill of cut 171 (primary)
182	10	Pit cut
183	10	Lining to cut 182
184	5	Topsoil
185	6	Topsoil
186	9	Ditch cut
187	9	Pond fill
188	9	Land drain

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 3 – FINDS ASSESSMENT REPORTS

Registered Finds, Non-Ceramic Building Materials & Bulk Finds

By Jenny Mann

Registered Finds

Introduction

A total of 56 registered finds was recovered from this site; these included 39 flints which are discussed separately (see flint report). Excluding the flint, the remaining finds were of Roman to modern date, coming mostly from Trenches 11, 10 and 9 (see Table 1). The majority were metal (see Table 2) and much of the ironwork was heavily corroded; a single organic find, a piece of leather preserved by waterlogged soil, was recovered from the area of the pond in Trench 9.

Table 1: Provenance of the registered finds (excluding flint)

Trench	*No*
2	1
8	3
9	4
10	5
11	5
Total:	**18**

All finds were recorded to basic CLAU archive level and the data entered onto the computer using the CLAU thesaurus of finds codes. All metalwork was X-rayed and remedial treatment undertaken where necessary by the Lincoln City and County Museum Conservation Laboratory.

Date Range and Type

Two pieces are datable to the Roman period: a copper alloy coin and two joining fragments of glass. The coin (026) <4>, an unstratified piece from Trench 10, is badly chipped but appears to have been struck off-centre suggesting that it is an irregular issue; it is almost certainly of 3rd- or 4th-century date. The glass (097) <54>, from the fill of a ditch in Trench 9, represents a very small portion from the base-ring of a colourless vessel, probably an item of tableware.

Table 2: Registered finds (excluding flint) listed by material and by type

Material	*Type*	*Unidentified*	*Total*
Copper alloy	coin: 1		1
	fitting: 1		1
	vessel?: 1		1
Iron	knife: 2	3	5
	horseshoe: 3		3
Lead		1	1
Glass	vessel: 1		1

	pendant?: 1		1
Ceramic	crucible: 1		1
Stone	quern: 2		2
Leather		1	1
Total:			**18**

Two knives were recovered, both with tanged blades. One (069) <7> is very small and slender and appears to be broken at the tip; this came from the subsoil in Trench 10. The other (144) <8>, from the fill of a ditch in Trench 9, is virtually complete. The cutting edges of both blades are somewhat indistinct on X-ray but show evidence of wear and sharpening, particularly the larger piece, which has an elongated S-shaped profile. The blades are of forms that would be consistent with a Middle to Late Saxon date.

Three horseshoes were recovered, representing an unusually high proportion - more than one-third - of the ironwork, although this may reflect the rural nature of the site. These show a range in date and include one complete shoe. An unstratified fragment from Trench 9 (121) <12> appears to have oval ?countersunk holes and a wavy profile, consistent with a date between the mid-11th and the mid-13th centuries, although it is too heavily degraded to be certain. The second fragment (043) <5>, from the fill of a ditch in Trench 10, is fullered (grooved) and thus dates to the 17th century at the earliest. The complete shoe (004) <9>, an unstratified piece from Trench 2, has a toe-clip which indicates a date of the mid-19th century (*c.* 1820s) at the earliest; it is very heavy, perhaps indicating use by a draught-horse.

Small fragments from two lava querns are both of imported ('Niedermendig') lava from the Eiffel area of the Rhineland[1]. This material was used for manufacturing querns from the Late Iron Age/Roman period onwards, and only a very broad date range can be assigned to one (121) <56> of the pieces, which has no diagnostic features. The other (090) <55>, however, shows faint signs of 'pecking' on the surface, a feature which has been noted on quern stones from Late Saxon (post-Conquest) levels at Flaxengate, Lincoln (Mann 1982, 22) and elsewhere. Both were unstratified finds.

The only other items of note are a single crucible sherd (069) <57> (from Trench 10 subsoil), albeit of an unidentified fabric, and a small fragment of amber-coloured glass (090) <11> with a rounded terminal; it is longitudinally split, but the remaining surface is convex. Although there is no sign of a perforation it is just possibly a bead or, more likely, a pendant and if so, could well be of (Late) Saxon date. Although unstratified, it was associated with pottery of late 9th- to late 10th-century date.

Non-ceramic Building Materials

A small quantity (total weight: 1.4kg) of fired clay was recovered, all but a single piece from Trench 9 (see Table 3), the majority from the fills of pits (126, 146, 148, 152), post-holes (134, 153) and ditches (155, 156). Although most are very small pieces and only a few show definite evidence of a surface or of wattle impressions, all are likely to represent the daub coating from timber structures in the vicinity. The only other building materials recovered were two fragments of stone, one (120) from a roofing slate and the other perhaps part of a flagstone (026); both came from the topsoil and are likely to be of relatively recent date.

Table 3: Selected Building Materials and Bulk Finds listed by Trench and Type

Trench No	*Daub*	*Slag*	*Bulk Stone*
2		1	1
7		1	
8		1	4
9	52	3	19
10	1	15	51
Total	**53**	**21**	**75**

Bulk Finds

The bulk finds include a small quantity of slag, mostly very small pieces (total weight 1.3kg; see Table 3); both fuel-ash and smithing slag are represented, together with two lumps that appear to have formed on hearth-bottoms. Further slight evidence of metalworking was also found within the soil samples, most notably from the fill of a pit (028) in Trench 10 (see Environmental Archaeology Assessment). The majority of the bulk finds, however, are fragments of stone including many that represent burnt and heat-fractured pebbles. Although these might be interpreted as 'pot-boilers' they may have had no direct association with cooking other than perhaps forming part of a hearth (or surround), and could have been burnt as a result of the 'industrial' activity as evidenced by the slag.

Discussion

The finds as a whole show a range in date and type with the majority coming from Trenches 9 and 10. Although this slight concentration may be explained by the larger size of the two areas investigated, it is probably no coincidence that it included a scatter of finds that can be broadly dated to the Middle to Late Saxon period. The finds themselves suggest domestic occupation, with slight evidence of small-scale industrial activity, somewhere in the vicinity.

Note

1. Petrological identification of the lava querns, and all other stone finds, kindly undertaken by John Aram.

Roman and Later Tile

By Claire D Angus (Lindsey Archaeological Services)

Factual Data

A small quantity of tile was recovered during the evaluation work at Cherry Willingham; the material included Roman and later tile.

The Quantity of Material

A total of 35 fragments of tile representing a maximum of 28 tiles were recovered from the evaluation. Fourteen of the tiles were of Roman date, twelve were medieval or later and two could not be dated.

The Range and Variety of Materials

The Roman and later material has been identified to common type and sub-fabric levels when possible.

Table 1: Roman and later codenames and total quantities by fragment and tile count

CName	*Full Name*	*Period*	*Sum of Frags*	*Tiles*
BOX	*box tile*	*Roman*	1	1
BRK	*brick*	*Med-pmed*	1	1
DRAIN	*drain*	*Pmed*	1	1
NIB	*nib*	*Med-pmed*	1	1
PNR	*untyped*	*Roman-pmed*	17	10
RBRK	*Roman brick*	*Roman*	3	3
RID	*ridge*	*Med-pmed*	1	1
RTIL	*Roman tile*	*Roman*	5	5
TEG	*tegula*	*Roman*	5	5

Roman Tile

Fourteen fragments of Roman tile were found overall. Most of these were tegula fragments, one with a possible paw print; the rest were too small to be identified.

Medieval and Later Tile

Nineteen fragments were found, representing twelve tiles. The majority of these were flat roof tiles including one nibbed tile and one ridge tile.

Condition

Much of the material consists of small fragments, with some larger fragments. Some of the tile is fresh, although a number of fragments are very abraded.

Primary Sources/Documentation

Draft matrices and context summaries were available for use.

Statement of Potential

It appears that the material has been brought to the site from elsewhere. While this does not provide information about the site itself, the presence of this material indicates that there were Roman and medieval buildings in the vicinity.

Storage and Curation

All of the tile should be retained until fabric analysis has been established for the region.

Anglo-Saxon And Later Pottery

By Jane Young (Lindsey Archaeological Services)

Factual Data

A small quantity of pottery was recovered during archaeological evaluation work at Cherry Willingham; the material included Saxon and later pottery.

The Quantity of Material

In total 160 sherds of pottery representing a maximum of 152 vessels were recovered from the evaluation. Twenty-two vessels were of Roman date and seven miscellaneous sherds could not be dated.

The Provenance of the Material

The date range of the contemporary pottery (or tile when only tile is present in the context) from each context is listed below in Table 1.

Table 1: Date of pottery and tile groups from the cwca99 excavation

Trench	*Context*	*Date*
2	004	18th to 19th
5	017	13th to 15th
6	019	15th to 18th
7	021	Roman
8	090	late 9th to late 10th

8	091	late 9th to late 10th
8	093	5th to 8th
8	105	8th to 9th
8	107	late 9th to late 10th or 8/9th
9	120	early to mid 13th
9	121	late 12th to early 13th
9	126	late 9th to late 10th
9	128	8th to 9th
9	132	8th to 9th
9	134	late 9th to late 10th
9	142	Late Saxon or Mid Saxon
9	144	8th to 9th
9	155	8th to 9th
9	156	8th to 9th
9	163	12th to early 13th
9	168	8th to 9th
9	170	late 12th to early 13th
9	176	13th
10	026	range of Roman to early modern
10	027	6th
10	060	5th to 8th
10	062	8th to 9th
10	064	5th to 8th
10	069	5th to 7th
10	071	5th to 8th
10	073	early modern
11	041	Roman
11	043	late 9th to late 10th
11	045	Roman to Late Saxon

The majority of the pottery (104 sherds representing 96 vessels) was recovered from Trench 10. Smaller amounts were recovered from Trenches 2, 7, 8, 9 and 11. The pottery is summarised by period in Table 2.

Table 2: Summary of datable pottery by chronological period

Trench	*Roman*	*Anglo-Saxon*	*Mid-Saxon*	*Late Saxon or Saxo-Norman*	*Medieval or later*
2	-	-	-	-	1
7	1	-	-	-	-
8	1	3	2	9	-
9	1	2	10	8	5
10	13	64	9	8	6
11	6	-	-	2	2
Total	**22**	**69**	**21**	**27**	**14**

The Range and Variety of Materials

The Saxon and later pottery has been identified to ware/common name and sub-fabric levels where possible. In total 131 sherds of post-Roman pottery were recovered (Table 3).

Table 3: Post-Roman pottery codenames and total quantities by sherd and vessel count

Cname	*Full Name*	*Period*	*Earliest*	*Latest*	*Sherds*	*Vessels*
BL	Black-glazed wares	pmed	1500	1750	1	1
BOU	Bourne D ware	pmed	1500	1650	1	1
CHARN	Charnwood ware	emsax	450	800	10	10
ECHAF	Early to Mid Anglo-Saxon chaff-	emsax	450	800	1	1
ESAXLOC	Early Anglo-Saxon Local wares	emsax	450	650	9	9
ESAXSH	Anglo-Saxon Shell-tempered fabrics	esax	450	650	1	1
ESGS	Early to Mid Anglo-Saxon	emsax	550	800	1	1
FE	Ironstone tempered	emsax	550	800	14	13
HUM	Humberware	med	1250	1500	1	1
IPS	Ipswich-type ware	msax	700	850	1	1
LEMS	Lincolnshire Early Medieval Shelly	emed	1130	1230	2	2
LFS	Linclonshire Fine-shelled ware	sn-emed	970	1200	1	1
LKT	Lincoln kiln-type shelly ware	lsax	850	1000	16	16
LPM	Late Post-Medieval wares	pmed	1750	1900	1	1
LS/SNLS	Late Saxon/Saxo-Norman Lincoln	lsax	850	1050	1	1
LSH	Lincoln shelly ware	lsax	850	1000	1	1
LSLOC	Late Saxon Local Fabrics	lsax	850	1050	3	3
LSLS	Late Saxon Lincoln Sandy ware	lsax	850	920	1	1
LSW1	12th century Lincoln Glazed ware	emed	1100	1200	2	2
LSW2	13th to 14th century Lincoln Glazed	med	1200	1400	1	1
LSW2/3	13th to 14th century Lincoln Glazed	med	1200	1400	2	2
MAX	Northern Maxey-type ware	msax	680	850	18	18
MISC	Unidentified wares	nk			7	7
MSAXLO	Local Middle Saxon fabrics	msax	700	850	2	2
POTT	Potterhanworth-type Ware	med	1250	1500	1	1
SST	Early to Mid Saxon sandstone-	emsax	550	800	33	26
ST	Stamford Ware	lsax	1000	1150	2	2
TB	Toynton/Bolingbroke wares	pmed	1500	1650	1	1
TORK	Torksey-type ware	lsax	850	1100	1	1
TORKT	Torksey-type ware	lsax	850	1100	1	1
WS	White stoneware	pmed	1700	1770	1	1

Roman Pottery

Twenty-two sherds of Roman pottery were found overall.

Anglo-Saxon Pottery

The date of the earliest post-Roman pottery is difficult to determine. Several vessels in context [027] are typologically of 6th century date, including a small biconical bowl with stamped and incised decoration, however, this does not necessarily mean that all of the associated Anglo-Saxon pottery is of similar date. There are indications on several sites (Didsbury 1994 And Vince and Young forthcoming) that the Charnwood and Sandstone-tempered wares continue at least into the beginning of the middle Saxon period. Charnwood vessels thought to be of Middle Saxon date typically include a range of secondary inclusions within the fabric, as do some of the sherds from this site. Most of the Anglo-Saxon vessels are plain undecorated jars or bowls, although at least five vessels have some decoration.

Middle Saxon Pottery

A total of 21 vessels of Middle Saxon date occurred on the site. The main ware type of this date found on the site shell-tempered Northern Maxey-type ware. A range of fabrics occurs, with only four vessels being produced in the more common Fabric B. The remaining vessels are mainly in a range of as yet undefined variant fabrics (designated Fabric U) so far only found on sites in North Lincolnshire (including Flixborough, Riby, and St. Peter's church Barton on Humber) and at York. The most important sherd to be found is part of a handle from a pitcher in Ipswich ware. This is the first definite sherd of this important ware type to be noted in the Lincoln area (a sherd from the Flaxengate site in Lincoln is only a tentative identification).

Late Saxon and Saxo-Norman Pottery

A total of 22 vessels date to the period between the late 9th and late 10th centuries with a further 7 vessels dating to the 11th or 12th centuries. With the exception of 10 sherds all are Lincoln products. The presence of an early jar rim in Late Saxon Lincoln ware indicates activity in the late 9th century.

Medieval and Later Pottery

Only a small number of vessels were found, all are typical finds on medieval and post-medieval sites in the Lincoln area.

Condition

Much of the material consists of small to medium-sized slightly abraded sherds with each sherd representing a separate vessel, however a significant number of multi-sherd vessels and larger sherds also occur. Most of the pottery is covered with iron-rich concretions and some shell-tempered sherds show signs of leaching.

Primary Sources/Documentation

Draft matrices and context summaries were available for use.

Statement of Potential

The material from this site compliments that from earlier excavations at Cherry Willingham (cw80) by Lindsey Archaeological Services. The assemblage is too small to make sweeping statements about the status or function of the site, although the presence of 61 Anglo-Saxon vessels, an Ipswich ware pitcher and Late 9th century Lincoln vessels all indicate that the site is potentially an important one. A number of vessels (13 vessels) should be drawn for archive or publication and several sherds should be sampled scientifically to determine their source as they are of different fabric types to Anglo-Saxon material usually found in the Lincoln area.

Storage and Curation (MAP2 A4.3)

All of the pottery should be retained for future study. Some restoration work could be done to make the small biconical bowl from context [027] displayable.

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Environmental Archaeology

By James Rackham (The Environmental Archaeology Consultancy)

Introduction

Evaluation excavations conducted by the City of Lincoln Archaeological Unit in Cherry Willingham resulted in the taking of fifteen soil samples, of which ten were submitted for environmental assessment, and the hand excavation of a small sample of animal bones from a number of contexts. These samples are briefly assessed below.

Table 1: Samples taken for environmental analysis

Sample	*Context*	*Trench*	*Volume in l.*	*Description*	*Comment and Preliminary dating*
1	049	11	-	fill of cut 042	not assessed
2	132	9	5	fill of pit, cut 133	mid Saxon
3	027	10	6	fill of pit 028	Saxon? (pot mixed)
4	126	9	4.5	fill of pit, cut 127	early-late Saxon
5	097	8	-	fill of pit, cut 098	not assessed
6	095	8	5	fill of pit, cut 096	no pottery
7	043	11	6	fill of cut 042	Roman to post-med
8	181	9	7	primary fill of pond, cut 171	Medieval -late 12-13th
9	177	9	10	fill of pond, cut 179	Medieval - 13th
10	173	9	10	primary fill of pit, cut 149	no pottery
11	062	10	7	fill of cut 063	IA/early Saxon
12	148	9	-	tertiary fill of pit, cut 149	not assessed
13	152	9	8	secondary fill of pit, cut 149	no pottery
14	172	9	-	primary fill of pond, cut 171	not assessed
15	183	10	-	lining of cut 182	not assessed

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 (except when the samples contained waterlogged remains), and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured, and the volume and weight of the residues recorded. The waterlogged samples were kept wet and their wet volume measured.

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 hammerscale and prill. The residue was then discarded. The float of each sample was studied under a low power binocular microscope. The presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. Only a sample of the flot from the waterlogged samples was scanned. The float was then bagged. The float and finds from the sorted residue constitute the material archive of the samples.

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

Results

Trench 8

Of the two samples taken from Trench 8 (Table 1) only sample 6, context 95, was assessed. The sample from this pit fill produced no archaeological finds (Table 2) and unfortunately the feature is undated. The environmental evidence included six charred cereal grains, including wheat and possibly oats, a little charcoal, a few fish bones, including eel, and a few snail shells. The latter included *Vallonia* sp., *Hygromia hispida*, *Cochlicopa* sp. and *Pupilla muscorum*, a group of taxa suggestive of a grassland habitat.

Table 2: Finds from the samples

sample	*context*	*vol in l.*	*residue vol ml.*	*pot no.*	*flint*	*slag in g.*	*ham'r scale*	*bone in g.*	*comments*
2	132	5	850	1				6	residue concreted soil
3	027	6	400	3	1	89	+	139	fire cracked pebble, fired earth and mortar
4	126	4.5	900	17		+		3	residue concreted soil
6	095	5	500					2	residue concreted soil
7	043	6	800				+	1	residue of concreted soil and limestone
8	181	7	120	1				6	residue of soil concretions and limestone
9	177	10	50					15	soil concretions and limestone, few tiny coal fragments
10	173	10	150			$		7	soil concretions and limestone
11	062	7	200			+	+	66	soil concretion and limestone
13	152	8	600			$		4	soil concretions and limestone, some fired earth (3g)

($ fuel ash slag; + - few fragments present)

Trench 9

Eight samples were collected from features in Trench 9. Two of these were not selected for assessment, but the remainder were processed. Samples 2 and 4 were collected from adjacent pits and are of probable Saxon date. Both produced pottery and small amounts of animal bone, and the latter produced some tiny slag fragments. Both samples produced a large number of uncharred seeds of elder, *Sambucus* sp, which may be of more recent origin than the fills, although survival of these robust seeds is possible. Charred cereal grains were present in both samples (Table 3), and a number of small fish scales were present in both, with small fish vertebrae in sample 2. A little charcoal was present in both and the wild fauna was represented by bones of mouse, vole, newt and frog or toad.

Three samples were taken from the pond fills in the south-east corner of the trench of which two were processed. The fills of these ponds have been preliminarily dated to the 12th and 13th centuries. Both samples were waterlogged and contained exceptionally good survival of uncharred plant remains, including seeds, twigs and wood, and included beetle fragments, waterfleas (*Daphnia* sp.), as well as

charred remains, fish and mammal bones. Food plants identified in the flots included wheat, barley, oat, pea/bean, elder, hazelnut and plum. Cat, dog, possible fox, eel and other small fish bones, plus rodent and amphibian remains indicate that the pond was a receptacle for both domestic rubbish and natural accumulating debris. Twigs and small roundwood was abundant, with thorns and seeds indicating the presence of hawthorn. Some of the wood showed the physical evidence of chopping. The molluscan fauna includes taxa of grassland, marsh and shaded or woodland habitats.

Three samples were taken from the fills of pit, cut 149. Two of these, Samples 10 and 13 were assessed. Both produced fuel ash slag and a little animal bone but no other archaeological finds, and unfortunately no dating evidence was recovered during excavation. Charred cereal was present in both, but more abundant in 13 (context 152), and pulses were also present, along with hazelnut and blackberry. Sample 13 had abundant uncharred elder seeds which may be of more recent origin than the fill. The charred cereal remains along with the presence of fragments of cattle, sheep and eel suggest the deposition of domestic rubbish, and the house mice in both samples suggest buildings were probably nearby. The occurrence of *Daphnia* ephippia and ostracod valves indicates that the pit had been waterfilled, although some of this material may derive from the ditch into which the pit was cut. A molluscan fauna comprising *Vallonia costata*, *V.excentrica*, *Cochlicopa* sp, *Vertigo* sp, *Carychium* sp, *Hygromia hispida*, *Succinea* sp and *Lymnaea truncatula* indicates both grassland and damp ground environments.

Trench 10

Three samples were collected from Trench 10, two of which were assessed, the fill of pit 28 and cut 63. The pit, 28, has a mixed assemblage of pottery but is probably of Saxon date, while the fills of cut 63 produced sherds at present assigned to the Iron Age or Early Saxon periods. Pit 28 produced three sherds of pottery and a flint flake. It also produced probable iron smithing slag and hammerscale indicating some industrial activity, animal bone, firecracked pebbles and fired earth. The environmental remains included quantities of charcoal, charred seeds, including wheat, barley, oat/rye? and pulse, bones of cattle, sheep, pig and small and medium sized fish. An abundance of hand collected animal bone in this feature confirms its probable function as a rubbish pit.

Trench 11

Two samples were taken in Trench 11, only one of which was assessed. The ceramics from cut 42 include sherds of Roman to post-medieval date and the date of the feature has not been established. Apart from a couple of flakes of hammerscale and a gramme of animal bone there was little archaeological debris in the sample. There was a similar lack of environmental material, with only small amounts of charcoal and a sheep bone being present, although a few ephippia of *Daphnia* sp were found in the flot. The few mollusc shells are consistent with a grassland habitat.

Table 3: Environmental finds from the samples with preliminary identifications

sample	context	vol in l.	flot vol ml.	snail */#	charred grain *	chaff *	charred seed *	uncharred seed *	char-coal *	egg-shell *	fish *	small mammal *	comment
2	132	5	7	1/1	2			5$	3		2	2	wheat, oat?, mouse, vole, frog/toad
3	027	6	32	1/1	2		1		4	1	3	2	wheat, barley, oat/rye?, pea/pulse, cattle, pig, sheep, rodent, frog/toad, newt, small & medium fish
4	126	4.5	3		2		1	4$	2		1	2	wheat, barley, oat, pig, common shrew, mouse, frog/toad, fish scales
6	095	5	1	1/2	1			1$	2		1	1	wheat, oat?, frog/toad, eel, small fish
7	043	6	<1	1/1					1				sheep, *Daphnia*
8	181	7	550	2/2	3		2	5	3		1	1	wheat, pea/bean, elder, plum, fox?, rodent, frog/toad, *Daphnia*, beetles, mites, wood and twigs
9	177	10	700	2/2	3		2	5	2	1	1	2	wheat, barley, elder, hawthorn, hazelnut, cat, dog, rodent, frog/toad, eel, medium fish, *Daphnia*, wood and twigs
10	173	10	50	2/2	2	1	1	5	2	1	1	1	wheat, barley?, oat, pea/bean, hazelnut, blackberry, sheep, cattle, house mouse, frog/toad, fish scales, *Daphnia*, ostracods
11	062	7	6	1/1	2			1$	4		2	1	wheat, barley, oat, pig, rodent, fish scales, medium fish
13	152	8	27	1/1	3	1	2	5$	3	1	1	2	wheat, barley, oat, pea/pulse, sheep, house mouse, common vole, snake?, frog/toad, eel

* frequency of items: 1=1-10; 2= 11-100; 3=101-250; 4=251-500; 5=>500
# diversity of molluscs as follows: 1=1-3; 2=4-10; 3=11-25; 4=26-50 taxa.
$ uncharred seeds almost all elder, *Sambucus* sp.

Animal Bone

An assemblage of 697 fragments of bone, a number further fragmented during excavation and washing, were hand collected from the evaluation. The condition of this bone was good with very few fragments showing surface etching or erosion, and a number of bones from the waterlogged deposits have survived in an exceptional state of preservation. The collection was recorded following the procedures of the Environmental Archaeology Consultancy (see key attached to archive catalogue) and an archive catalogue produced. The assemblages in different contexts showed different levels of fragmentation with some contexts containing many large bones, some complete. Until the phasing data is available whether these variations are period or context related cannot be assessed. The taxa identified included cattle, horse, sheep, pig, dog, cat, roe deer, frog/toad, buzzard (or possibly kite), dove and a large bird of swan size whose bone fragments will require checking against the Natural History Museum reference collection.

The assemblage included parts of a number of skeletons, including pig, cow and cat (each recorded as a single entry in the Table 4). The partial skeletons of the pig and cow were recovered from the fills of pond 179, Context 176, and presumably suggests the disposal of animal casualties. The presence of a large pathological sinus on the face of the skull of the pig skeleton perhaps supporting this.

Table 4: Frequency of bone fragments for each taxa from the whole assemblage

Species	*No. Fragments*
Horse	26
Cattle	189
Cattle size	214
Sheep/goat	87
Sheep	8
Sheep size	60
Pig	54
Dog	10
Cat	1
Roe deer	2
Small mammal	1
Frog/toad	1
Buzzard*	1
Feral pigeon/dove	1
Large bird	7
Unidentified bird	3
Unidentified	32

*specimen not checked against kite

The density of animal bone in some of these features indicates that quite large, and therefore interpretable, bone assemblages could be recovered from the site if further excavation is required.

Discussion

The results of the sample assessment has illustrated that there is some evidence for small scale industrial activity on the site in the form of smithing, with the sample from pit 28 giving the clearest indication. Preliminary indications are that this is of Saxon date. The unusual form of this piece of slag would be consistent with a Saxon date, and would make the recovery of a large sample of interest.

The environmental evidence suggests that most of the material in the samples derives from domestic rubbish. The densities of cereal grain are fairly low in most samples, fluctuating between 1 and approximately 15 grains per litre, and the absence of chaff, except in samples 10 and 13, suggests that most of this was probably charred accidentally during food processing. A generally low frequency of charred weed seeds is further evidence that the cereals derived from a cleaned crop and the evaluation

samples show little or no evidence for crop processing waste. The occasional remains of pulses is also consistent with this view. In general most of the samples are assigned to the Saxon period and therefore these remains constitute and potentially important assemblage for testing such things as continuity after the Roman period, for instance is spelt still grown or is bread wheat the dominant crop.

The great abundance of elder seeds in many of the samples is attributed to post-depositional contamination but some survival of economic food plants occurred in the waterlogged samples. Hazelnuts and plum stones were recovered, and the occurrence of charred elder seeds may indicate that the berries of this plant were also utilised. Other food taxa may occur among the unidentified botanical remains.

The excavated animal bones indicate that cattle, pig, sheep and roe deer were evidently eaten, with possibly horse, but the soil samples also show the presence of eel, small fish and one or two medium sized fish. Whether these are freshwater or marine taxa would require specific identification. Fish bones occurred in all the samples and fishes were presumably a regular element of the diet.

The palaeoenvironmental picture on the site cannot be determined without post-excavation analysis but the molluscan evidence is suggestive of an open grassland habitat with some damp ground. The well preserved waterlogged material from the 12th/13th century deposits has considerable potential for more detailed palaeoenvironmental reconstruction.

Recommendations

The samples and excavated animal bone have illustrated that the site has the potential for producing large quantities of material, in a good state of preservation, relating to the diet and economy of the settlements at Cherry Willingham. This survival and frequency means that interpretation of the spatial and functional character of the environmental evidence is likely to be possible, as well as interpretations of the crop and animal husbandry supporting the site. If much of the archaeology is confirmed as of Saxon date, and potentially early, it affords an extremely important comparanda to other early and middle Saxon sites in the county such as Quarrington. The exceptional survival in the waterlogged contexts affords a good opportunity for assessing the local and regional environmental picture in the medieval period through the analysis of the pollen, uncharred plant, insect, molluscan and other remains. If similar deposits contemporary with the earlier Saxon archaeology occur on site these would be of considerable local significance.

Should further archaeological work be required on the site a programme of sampling designed to assess both the spatial and chronological variability of the environmental data should be implemented, with particular attention being given to waterlogged deposits and those features with high bone densities. Soil sample sizes should be a minimum of 30 litres to ensure reasonable samples sizes of charred plant remains and fish bones, while waterlogged deposits require smaller samples (10 litres) and should be sub-sampled for pollen analysis where appropriate. It may also be appropriate to wet sieve the fills of features such as pit 28 to recover an unbiased sample of animal and fish bone, pottery and other finds. The environmental samples may be the main method for identifying the focus of industrial activity on site and sampling should take account of this as well as the strictly environmental data. Sampling should target linear features as well as pits, and these may require sampling at more than one location along the feature.

Any further archaeological work on the site should include the post-excavation analysis of the environmental remains from the well-dated contexts recorded during the evaluation work.

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PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 4: THE FINDS CATALOGUE

Bulk Finds

Context	*Name*	*Count*	*Comments*
004	SLAG	1	3GM SSL
004	MSTO	1	FLIN DIS
021	SLAG	1	3GM SSL
026	SLAG	11	732GM SSL
026	MSTO	1	IROS DIS
026	MSTO	1	HORNBLENDE/GRANITE? REF COLL
026	MSTO	1	BURNT (NEEDS THIN-SEC)
026	MSTO	3	(= 1) SST BURNT DIS
026	MSTO	7	FLIN DIS
027	SLAG	2	40GM SSL; 36GM TAP/HBOT?
027	MSTO	14	SST UPPER CARBONIF LGE PEBBLES MOST BURNT DIS
027	MSTO	1	COSST BURNT REF COLL
027	MSTO	1	BASALT/DOLERITE PENNINE/NE ENG) V BURNT REF COLL
027	MSTO	2	(NEED THIN-SEC)
027	MSTO	3	FLIN DIS
027	OMIS	1	IRON?
041	NAIL	1	-
043	COAL	5	3GM
043	MSTO	4	FLIN DIS
060	SLAG	1	74GM SSL + HBOT?
060	MSTO	1	SST REF COLL
060	MSTO	2	SST UPPER CARBONIF MGRIT/COSST BURNT DIS
060	MSTO	1	(NEEDS THIN-SEC)
066	COAL	1	0GM DIS
066	MSTO	1	BURNT LST DIS
066	MSTO	2	LST SHELLYX1 OOLITIC (PROB LOCAL) X1 DIS
066	MSTO	1	(NEEDS THIN-SEC)
068	MSTO	1	FLIN DIS
069	MSTO	5	SST UPPER CARBONIF BURNT DISX4 LGE SUB-SQUAX1 REF COLL
069	MSTO	1	COSST REF COLL
069	MSTO	1	FOSSIL JURASSIC DIS
069	MSTO	1	FLIN DIS
071	MSTO	1	SSTX1 BASALTX1 (V) BURNT DIS
080	MSTO	1	22GM BURNT LST DIS
090	MSTO	2	SST UPPER CARBONIFX1 QUARTZITEX1 V BURNT REF COLL
091	MSTO	1	(NEEDS THIN-SEC)
095	SLAG	1	182GM SSL
097	MSTO	1	IRON-RICH SST? DOLERITE+MAGNETITE? 152GM [SMELTING??]
109	SHEL	1	SNAI DIS
120	MSTO	2	LSTX1 FLINX1 DIS

121	WOOD	1	STAKE
122	SLAG	1	5GM FAS?
134	MSTO	1	11GM BURNT LST DIS
142	MSTO	1	FLIN DIS
142	MSTO	1	DOLERITE BURNT REF COLL
148	MSTO	1	SST UPPER CARBONIF MGRIT/COSST BURNT DIS
152	MSTO	1	SHELLY LST JURASSIC DIS
155	SLAG	1	192GM SSL/TAP?
155	MSTO	1	SST UPPER CARBONIF MGRIT/COSST BURNT REF COLL
155	MSTO	1	SST BURNT DIS
156	MSTO	1	SST UPPER CARBONIF MGRIT/COSST BURNT DIS
163	SLAG	1	19GM SSL
163	MSTO	8	(= 1?) SHELLY LST JURASSIC DIS
168	SHEL	2	SNAI DIS
168	MSTO	1	SST UPPER CARBONIF MGRIT/COSST BURNT DIS

Registered Finds

Trench	*Context*	*Finds No.*	*Material*	*Name*	*Comments*
10	026	1	COPP	-	PMED;FITT/ATTA HEXA TERM CAST
10	026	2	LEAD	-	SHEET
11	041	3	IRON	-	ANG
11	043	4	COPP	COIN	ROM-LROM;3-4
11	043	5	IRON	HOSH	PMED-MOD;FULL
11	043	6	IRON	-	ANG
10	069	7	IRON	KNIF	SAX-LSAX;BLADE
9	144	8	IRON	KNIF	SAX-LSAX;BLADE
2	004	9	IRON	HOSH	MOD;M19+;TOEC WHOLE
9	121	10	LEAT	-	CORNER
8	090	11	GLAS	-	LSAX?;PEND?
9	121	12	IRON	HOSH	LSAX-MED?;M11-M13?
10	026	13	IRON	-	WAST?
11	043	14	COPP	-	VESS RIM?
1	001	15	FLIN	FLAK	PREH;LNEOL-EBRNZ
2	004	16	FLIN	TOOL	PREH;ENEOL;BLADE SERR
3	040	17	FLIN	-	PREH;TESTED/MECH DAMAGE?
4	039	18	FLIN	FLAK	PREH;
7	021	19	FLIN	-	PREH;FLAK/BLADE USED? BURNT
7	021	20	FLIN	SCRA	PREH;LNEOL-EBRNZ;HOSH RETOUCH
7	021	21	FLIN	TOOL	PREH;ENEOL;BLADE MECH DAMAGE
7	030	22	FLIN	-	PREH;ENEOL;CORE REJUVEN
8	090	23	FLIN	-	PREH;FLAK/BLADE
8	090	24	FLIN	FLAK	PREH;ENEOL;BLADE LIKE USED
8	091	25	FLIN	-	PREH;FLAK/BLADE
8	091	26	FLIN	TOOL	PREH;ENEOL;BLADE ABRA/RUBB BUTT
9	120	27	FLIN	TOOL	PREH;ENEOL;BLADE
9	134	28	FLIN	-	PREH;FLAK/BLADE
9	136	29	FLIN	SCRA	PREH;USED FLAK (RECENT DAMAGE)
9	144	30	FLIN	-	PREH;SPALL BURNT
9	163	31	FLIN	FLAK	PREH;MECH DAMAGE

10	026	32	FLIN	SCRA	PREH;LNEOL-EBRNZ;THUMBNAIL USED FLAK
10	026	33	FLIN	-	PREH;LUMP/CHUNK MECH DAMAGE?
10	026	34	FLIN	TOOL	PREH;ENEOL;BLADE RETOUCH
10	026	35	FLIN	CORE	PREH;
10	027	36	FLIN	FLAK	PREH;LNEOL-EBRNZ (RECENT DAMAGE)
10	060	37	FLIN	CORE	PREH;ENEOL;BLADE REMOVAL
10	068	38	FLIN	FLAK	PREH;BURNT
10	068	39	FLIN	FLAK	PREH;BURNT (RECENT DAMAGE)
10	068	40	FLIN	-	PREH;FLAK/BLADE
10	068	41	FLIN	TOOL	PREH;ENEOL;BLADE
10	068	42	FLIN	-	PREH;CHUNK
10	068	43	FLIN	TOOL	PREH;BLADE MECH DAMAGE
10	068	44	FLIN	TOOL	PREH;ENEOL;BLADE LAUREL LEAF
10	068	45	FLIN	CORE	PREH;LNEOL-EBRNZ;DISCOIDAL
10	069	46	FLIN	-	PREH;FLAK/BLADE
10	069	47	FLIN	FLAK	PREH;
10	069	48	FLIN	TOOL	PREH;BLADE
10	071	49	FLIN	-	PREH;ENEOL;CORE REJUVEN
11	041	50	FLIN	-	PREH;FLAK/BLADE USED AS WEDG?
11	043	51	FLIN	TOOL	PREH;BLADE
11	043	52	FLIN	FLAK	PREH;USED
11	043	53	FLIN	FLAK	PREH;
8	097	54	GLAS	VESS	ROM;X2 (=1) BASE
8	090	55	STON	QUER	LSAX?;X2 (= 1) NLAVA PECK? BURNT
9	121	56	STON	QUER	NLAVA
10	069	57	CERA	CRUC	-

Non-Ceramic Building Material

Context	*Form*	*Count*	*Weight*	*Comments*
026	STILE	1	240	CLST? (FGST?)
069	DAUB	1	2	
120	SLATDISC	1	30	PERF
126	DAUB	22	105	
134	DAUB	2	3	
146	DAUB	6	80	
148	DAUB	19	634	WATTLE IMPRX2; SURFX3 BURNT
152	DAUB	2	45	
153	DAUB	4	115	
155	DAUB	1	2	BURNT
156	DAUB	6	430	WATTLE IMPRX2 SURFX2 BURNT

Roman and Later Tile

Context	*Cname*	*Sub-type*	*Frags*	*Description*	*Date*
073	DRAIN		1		EMOD
004	BRK		1		EMOD
163	TEG		1	worn	Roman
043	PNR		1	corner; flat	medieval
043	PNR		2	flat	medieval
043	PNR		7	scraps	medieval-emod
069	RBRK		1		Roman
069	RTIL		1		Roman
060	RTIL		1	mortar	Roman
121	PNR		1	large frag; flat	medieval
121	PNR		1	large frag; flat; corner	medieval
121	PNR		1	flat	medieval
144	TEG		1	very abraded	Roman
019	PNR		1	flat	Late medieval - post-medieval
019	PNR		1	Misc; very abraded	N/A
019	RTIL		1	abraded; prob TEG	Roman
017	PNR		1	flat	medieval - late medieval
026	RBRK		1	large; very abraded frag	Roman
026	TEG		1	paw? Print	Roman
026	TEG		1	very abraded	Roman
026	RID		1	large frag	post-medieval-emod
026	RTIL		1	small frag	Roman
026	RTIL		1	small frag; vitrified	Roman
027	PNR		1	?date	
120	RBRK		1	large frag; mortar; very abraded	Roman
120	BOX		1	Combed patt; soot	N/A
120	TEG		1	vitrified	Roman
176	NIB	Type 3a	1	corner	E13th-E14th

Trench	Context	Cname	Sub Fabric	Form Type	Sherds	Weight	Vessels	Decoration	Part	Action	Ref No	Description
02	004	BL		bowl	1	10	1		rim			18/19th
07	021	R			1	3	1					
08	105	MSAXLOC			1	3	1		BS			limestone & shell fabric
08	093	FE			1	8	1		BS			comm large fe lumps + mod limestone/chalk + occ fine subround quartz
08	107	LSLOC			1	1	1		BS			? ID;shell & quartz fabric;could be MSAX
08	091	LKT		small jar	1	33	1		base			burnt
08	091	LKT		jar	1	1	1		BS			
08	091	FE			1	1	1		BS	fabric analysis		flake;comm large fe lumps + agg sst incl muscovite + occ granite
08	091	MAX	U.4		1	18	1		base			soot;? Fabric ID
08	090	LKT		jar	1	34	1		base			leached int
08	090	LKT		jar	1	3	1		BS			completely leached
08	090	LKT		jar	1	10	1		rim			EVERA rim; soot;mostly leached
08	090	LKT		small jar	1	31	1		base			soot
08	090	LKT		small jar	1	9	1		rim			EVERA rim;soot
08	090	TORK		jar	1	8	1		BS			
08	090	R			1	3	1		BS			
08	090	FE			1	5	1		BS			soot;numerous large voids moderate fe lumps moderate quartz
08	090	MISC			1	3	1		BS			flake;medium subround quartz;Roman or LSAX
08	090	MISC			1	4	1	incised	BS			burnt;Roman or ESAX
09	128	MAX	U.4		1	4	1		BS			? ID or ELFS
09	126	LKT		small jar	1	19	1		base			chipped surfaces;fe internal slip
09	126	LKT		jar	1	10	1		BS			
09	126	FE			1	13	1		base			mod large fe lumps mod fine subround quartz
09	126	ESAXLOC			1	7	1		BS			abundant fine subround quartz occ larger + occ fe;soot
09	163	ST		jar	1	6	1		BS			111/12th;no glaze
09	163	LEMS		jar	1	1	1		BS			soot;? ID

09	163	LSLOC		jar	1	7	1		base			soot;harsh shell fabric;? ID
09	163	MAX	U		1	10	1		BS			soot;abundant fine shell + comm fine subround quartz
09	170	LEMS		bowl	1	39	1		rim			soot;everted rim;l12-e13th
09	170	LKT		jar	1	7	1		BS			fe internal slip;chipped surfaces
09	168	MAX	U.4		1	5	1		BS			
09	144	MAX	U.4		1	11	1		base			soot
09	144	MAX	G		1	15	1		BS			? Fabric ID
09	144	R			1	35	1		base			samian;well abraded
09	134	LKT		jar	1	3	1		BS			
09	121	ST		jar/pitcher	1	3	1		BS			glaze;l11/12th
09	121	LSW1		jug	1	11	1		BS			l12-e13th
09	120	LSW2		jug	1	14	1		BS			prob e-m13th
09	120	POTT		jar	1	28	1		BS			
09	132	MAX	U.4		1	3	1		BS			? ID
09	142	MAX	U		1	9	1		BS			thick walled;abundant fine shell comm fine subround quartz + occ fe
09	142	MAX	B		1	3	1		BS			soot
09	142	LSLOC		jar	1	1	1		BS			carb deposit int;thin walled;? ID;shell fabric
09	156	MAX	U		1	16	1		BS			mixed shell frags;hard fabric
09	155	MAX	U.4		1	3	1		BS			? Fabric ID
10	071	ESAXSH		small jar	1	3	1		rim	draw	DR13	
10	064	SST			1	2	1		BS			fine subround quartz some aggregate
10	064	R			1	6	1		BS			
10	060	SST			1	5	1		BS	fabric analysis		very mixed fabric incl greensand + finer aggregate
10	060	ECHAF			1	22	1		base			fabric incl large FE lumps + occ quartz + occ chalk/limestone
10	062	SST			1	13	1		BS			abundant fine subround quartz occ aggregate + occ limestone mod carb veg
10	062	ESAXLOC			1	14	1		base			abundant fine subround quartz occ larger + occ flint occ fe occ limestone
10	062	ESAXLOC			1	4	1		BS			abundant fine subround quartz occ larger rounded quartz + occ rounded limestone

10	062	MAX	E		1	56	1		BS			? Fabric ID single echn;finger groove
10	069	TB		jug	1	51	1		BS			15/16th
10	069	LSW2/3		jug	1	43	1		base			
10	069	R			1	21	1		BS			
10	069	LFS			1	1	1		BS			soot
10	069	MAX	B		1	3	1		BS			
10	069	MAX	U.4		1	18	1		BS			soot
10	069	MSAXLOC		bowl	1	8	1		rim			soot;comm large shell frags + mod fine subround quartz
10	069	LSH			1	3	1		BS			soot;leached
10	069	MAX	B		1	7	1		base			leached
10	069	ESAXLOC			1	15	1		base			mod subround quartz occ larger rounded + comm limestone/chalk;rounded base
10	069	ESAXLOC			1	3	1		BS			mod fine to med subround quartz occ larger rounded
10	069	CHARN			1	3	1		base			fabric incl mod fe + comm chaff
10	069	FE			1	8	1		base			comm large fe lumps + occ quartz
10	069	SST			1	38	1		base			rounded base;coarse fabric incl abun chaff + mod large fe lumps + occ limestone
10	069	SST		jar	1	34	1		rim	draw	DR11	part soot;comm fine subround quartz occ larger some aggregate incl fe stained + carb veg voids + occ limestone incl shell + occ fe
10	069	SST		bowl?	1	31	1		rim	draw	DR12	part burnish ext;int carb dep;abun fine subround quartz some larger mod aggregate
10	069	FE			1	8	1		BS			fabric incl comm large fe lumps + mod shell + occ carb veg voids + mod very fine to fine quartz
10	069	SST			2	5	1		rim & BS			mixed quartz incl some aggregate + occ fe + occ carb veg voids
10	069	SST			1	9	1		BS			mixed quartz incl some aggregate + occ fe + occ carb veg voids
10	069	SST			2	10	1		base			mixed fabric incl large greensand + ca cemented aggregate + occ large fe lumps + occ limestone/chalk flecks + occ carb veg voids + occ flint
10	026	FE		jar	1	62	1		neck	fabric analysis		abundant carb veg + comm large fe lumps incl single fe oolitic + occ limestone + occ subround quartz

10	026	SST		jar	1	45	1		rim	draw	DR1	abun fine subround quartz mod aggregate + comm carb veg + occ limestone
10	026	ESAXLOC		jar	1	48	1		rim	draw	DR2	carb interior deposit;comm fine subround quartz + mod carb veg + mod large fe + occ limestone slightly micaceous matrix
10	026	MISC		jar	1	22	1		rim	draw if ESAX	DR3	mainly leached comm shell voids + mod subround quartz;carb interior dep;Roman or ESAX
10	026	CHARN		jar	1	47	1		rim	draw	DR4	? Applied part broken off at rim
10	026	R			1	6	1		rim			
10	026	CHARN			1	44	1		base			fabric incl abun chaff;interior soot
10	026	CHARN			1	50	1		BS			fabric incl abun chaff;thick walled
10	026	CHARN			1	10	1		base			fabric incl abun chaff
10	026	SST			1	15	1		base			abundant fine quartz mod aggregate + occ carb veg + occ fe
10	026	CHARN			1	3	1		BS	fabric analysis		fabric incl comm large fe lumps + limestone + occ chaff
10	026	ESGS			1	10	1		BS			flake;fabric incl chalk/limestone
10	026	SST			1	10	1		BS			mixed fabric some aggregate comm large greensand + occ chaff
10	026	FE			1	4	1		BS			comm large fe lumps;abun fine quartz + mod chaff
10	026	SST			1	15	1		base			burnished;mixed fabric fine quartz with fine aggregate + mod angular quartz + occ chaff + occ fe
10	026	SST			1	8	1		BS			bright orange fabric;abundant fine subround to round quartz most coloured red + mod fe + occ larger quartz
10	026	SST			1	17	1		BS	fabric analysis		mixed fabric abundant very fine quartz occ coarse ang & mod med sized + small flecks chalk/limestone + occ clay pellets + occ ca cemented sst;? ID or Roman
10	026	SST			1	22	1		BS	fabric analysis		soot ext & int;very mixed fabric very fine to coarse quartz + ? Igneous rock & biotite
10	026	LS/SNLS		jar	1	8	1		base			ext soot;oxid fabric
10	026	CHARN			1	3	1		BS	fabric analysis		fabric incl aggregate fine sst + very fine quartz
10	026	SST			1	24	1		BS			comm fine subang quartz v occ aggregate + mod carb veg or voids;rough wiped surfaces;soot

10	026	CHARN			1	38	1		base	fabric analysis		comm carb veg + mod fe + mod limestone incl oolith
10	026	SST			1	20	1		BS			semi burnish ext;mixed fabric abun fine angular quartz comm aggregate occ larger quasrtz all stained red + mod fe incl large frags + mod carb veg or voids + v occ shell
10	026	MISC			1	18	1		base			comm v fine to fine subround quartz + mod carb veg? voids;v hard fabric; Roman or ESAX
10	026	R			1	13	1		BS			
10	026	ESAXLOC		large jar	1	10	1	incised horiz groove	BS			comm v fine to fine subround quartz;very hard fabric;? ID
10	026	R			1	15	1		base			
10	026	R			1	13	1		rim			? ID;completely leached shell
10	026	IPS	medium	pitcher	1	39	1		handle	draw?		burnish ext
10	026	R			1	15	1		rim			
10	026	LSLS	A	jar	1	24	1		rim	draw	DR5	very early overhang rim;light grey fabric
10	026	TORKT		jar	1	6	1		BS			fine to med subround quartz + occ fe;? ID
10	026	R			1	31	1		rim			
10	026	R			1	4	1		BS			
10	026	R			1	19	1		BS			
10	026	R			1	1	1		BS			
10	026	LKT		jar	1	1	1		BS			? ID;completely leached
10	026	LKT			1	11	1		base			burnished;int soot
10	026	MAX	U		1	11	1		base			? ID;soot;fine shell + comm fine subround quartz + mod fe
10	026	MAX	B		1	17	1		BS			soot
10	026	MAX	U		1	6	1		base			? ID;soot ext;interior red deposit;fine shell with fungal holes ? Fabric U.4
10	026	LPM			1	19	1		BS			plain white stoneware;19/20th
10	026	LSW1		jug	1	12	1		rim			inturn rim
10	026	LSW2/3		jug	1	3	1		BS			
10	027	BOU		jug/jar	1	74	1		base			
10	027	MISC	grey		1	3	1		BS			no surfaces ? Date

10	027	MISC	grey		1	4	1		BS			no surfaces ? Date
10	027	R			1	8	1		rim			
10	027	R			1	5	1		flange			
10	027	LKT		small jar	1	4	1		BS			
10	027	CHARN		jar	1	57	1		rim	draw	DR6	fabric incl comm chaff;soot
10	027	CHARN		jar	1	13	1		rim	draw	DR7	fabric incl sparse chaff
10	027	FE			1	4	1		BS			fabric incl comm chaff + occsubround quartz
10	027	FE		small jar	1	66	1		rim	draw; fabric analysis	DR8	sharp shouldered;int & ext soot;mod fe mod mixed subround quartz + occ limestone + comm chaff
10	027	SST			1	38	1		BS	fabric analysis		soot;fabric incl very mixed quartz incl ca aggregated fine subround quartz & larger rounded quartz incl greensand + occ shell + ? Rounded limestone + ? Biotite + chalk;? Wolds source
10	027	SST			1	107	1		BS	fabric analysis		rounded base;soot;fine fabric incl comm aggregate some fe stained + mod fine fe + occ chaff + occ flint + occ biotite & ? Acid ign
10	027	SST		small biconical/carinated bowl	6	95	1	horizontal row of stamps above 2 incised rows with empty chevrons? Below	rim & BS	draw	DR9	very thin walled;fabric incl comm fine subround quartz occ aggregate & occ larger quartz + occ chaff voids
10	027	SST			1	38	1		BS	fabric analysis		fabric incl comm coarse quartz + comm chaff voids + occ muscovite + occ fe + occ chalk
10	027	SST			1	1	1		rim			mixed fabric incl aggregate
10	027	SST		jar	1	0	1	edge of grid stamp	rim	draw	DR10	fine fabric incl aggregate + occ chaff + mod fine fe micaceous fabric
10	027	ESAXLOC			1	3	1		BS			comm subround quartz + chaff voids
10	027	ESAXLOC			1	1	1		BS			mod subround quartz + fe + chaff
10	027	SST			1	5	1		BS			very mixed fabric incl chaff + large fe lumps + biotite
10	027	SST			1	18	1		BS	fabric analysis		fabric incl comm chaff + occ chalk/limestone + comm coarse angular quartz & occ fine aggregate + occ fe + occ flint

10	027	FE			2	58	1		BS			soot;fabric incl abun chaff + comm large fe lumps + occ shell + occ quartz
10	027	FE			1	29	1	boss	BS			cab deposit int;comm chaff + comm large fe lumps + occ subround quartz
10	027	FE			1	15	1		base			abun chaff + comm large fe lumps
11	041	R			1	6	1		rim			
11	043	R			1	1	1		BS			very abraded
11	043	R			1	1	1		BS			very abraded
11	043	R			1	2	1		BS			very abraded
11	043	R			1	5	1		rim			very abraded
11	043	R			1	9	1		base			very abraded
11	043	WS		bottle?	1	0	1		BS			oatmeal
11	043	HUM		jug	1	32	1		base			thumbed base;very abraded
11	043	LKT			1	1	1		BS			very abraded
11	043	LKT		bowl	1	21	1		rim			inturned rim;very abraded
11	045	MISC			1	1	1		BS			subround quartz;grey fabric;Roman or LSAX

Animal bone

Key To Codes Used In The Cataloguing Of Animal Bones

SPECIES

BOS	cattle
CSZ	cattle size
SUS	pig
OVCA	sheep or goat
OVI	sheep
SSZ	sheep size
EQU	horse
CER	red deer
CAN	dog
MAN	human
UNI	unknown
CHIK	chicken
GOOS	goose, dom
LEP	hare
UNB	indet bird
MALL	duck, dom.
GULL	gull sp.
FISH	fish
UNIB	bird indet
UNIF	fish indet
GSZE	goose size
BEAV	beaver
CORV	crow or rook
POLE	polecat/ferret
PART	partridge
ORC	rabbit
ROD	rodent
JACK	jackdaw
OWL	owl indet.

BONE

SKL	skull
TEMP	temporal
FRNT	frontal
PET	petrous
PAR	parietal
OCIP	occipital
ZYG	zygomatic
MAN	mandible
MAX	maxilla
ATL	atlas
AXI	axis
CEV	cervical vertebra
TRV	thoracic vertebra
LMV	lumbar vertebra
SAC	sacrum
CDV	caudal vertebra
SCP	scapula
HUM	humerus
RAD	radius
MTC	metacarpus
MC1-4	metacarpus 1-4
INN	innominate
ILM	ilium
PUB	pubis
ISH	ischium
FEM	femur
TIB	tibia
AST	astragalus
CAL	calcaneum

SIDE

W - whole
L - left side
R - right side
F - fragment

FUSION

Records the fused/unfused condition of the epiphyses
P - proximal; D - distal; E - acetabulum;
N - unfused; F - fused; C - cranial; A - posterior

TOOTH WEAR

Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites, 91-108.*

Teeth are labelled as follows in the tooth wear column:

h ldpm4/dupm4 f ldpm2/dupm2
H lpm4/upm4 g ldpm3/dupm3
I lm1/um1
J lm2/um2
K lm3/um3

ZONES

zones record the part of the bone present.
The key to each zone on each bone is on page 2

MEASUREMENTS

Any measurements are those listed in A.Von den Driesch (1976) *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA

PRESERVATION

1 - enamel only surviving
2 - bone very severely pitted and thinned, tending to break up teeth with surface erosion and loss of cementum and dentine
3 - surface pitting and erosion of bone, some loss of cementum and dentine on teeth
4 - surface of bone intact, loss of organic component, material chalky, calcined or burnt
5 - bone in good condition, probably with some organic component

AUR	aurochs
DUCK	duck sp.

MTT	metatarsus
MT1-4	metatarsus 1-4
PH1	1st phalanx
PH2	2nd phalanx
PH3	3rd phalanx
LM1-LM3	Lower molar 1 - molar 3
UM1-UM3	upper molar 1 - molar 3
LPM1-LPM4	lower premolar 1-4
UPM1-UPM4	upper premolar 1-4
DLPM1-4	deciduous lower premolar 1-4
DUPM1-4	deciduous upper premolar 1-4
MNT	mandibular tooth
MXT	maxillary tooth
LBF	long bone
UNI	unidentified
STN	sternum
INC	incisor
TTH	indet. tooth
CMP	carpo-metacarpus
SKEL	skeleton

ZONES
codes used to define zones on each bone

SKULL -
1. paraoccipital process
2. occipal condyle
3. intercornual protuberance
4. external acoustic meatus
5. frontal sinus
6. ectorbitale
7. entorbitale
8. temporal articular facet
9. facial tuber
0. infraorbital foramen

MANDIBLE
1. Symphyseal surface
2. diastema
3. lateral diastemal foramen
4. coronoid process
5. condylar process
6. angle
7. anterior dorsal acsending ramus posterior M3
8. mandibular foramen

VERTEBRA
1. spine
2. anterior epiphysis
3. posterior epiphysis
4. centrum
5. neural arch

SCAPULA
1. supraglenoid tubercle
2. glenoid cavity
3. origin of the distal spine
4. tuber of spine
5. posterior of neck with foramen
6. cranial angle of blade
7. caudal angle of blade

METACARPUS -
1. medial facet of proximal artciulation, MC3
2. lateral facet of proximal articulation, MC4
3. medial distal condyle, MC3
4. lateral distal condyle, MC4
5. anterior distal groove and foramen
6. medial or lateral distal condyle

FIRST PHALANX
1. proximal epiphysis
2. distal articular facet

INNOMINATE
1. tuber coxae
2. tuber sacrale + scar
3. body of illium with dorso-medial foramen
4. iliopubic eminence
5. acetabular fossa
6. symphyseal branch of pubis
7. body of ischium
8. ischial tuberosity
9. depression for medial tendon of rectus femoris

FEMUR
1. head
2. trochanter major
3. trochanter minor
4. supracondyloid fossa
5. distal medial condyle
6. lateral distal condyle
7. distal trochlea
8. trochanter tertius

TIBIA
1. proximal medial condyle
2. proximal lateral condyle
3. intercondylar eminence
4. proximal posterior nutrient foramen
5. medial malleolus

HUMERUS

1. head
2. greater tubercle
3. lesser tubercle
4. intertuberal groove
5. deltoid tuberosity
6. dorsal angle of olecranon fossa
7. capitulum
8. trochlea

RADIUS

1. medial half of proximal epiphysis
2. lateral half of proximal epiphysis
3. posterior proximal ulna scar and foramen
4. medial half of distal epiphysis
5. lateral half of distal epiphysis
6. distal shaft immediately above distal epiphysis

ULNA

1. olecranon tuberosity
2. trochlear notch- semilunaris
3. lateral coronoid process
4. distal epiphysis

CALCANEUM

1. calcaneal tuber
2. sustentaculum tali
3. processus anterior

METATARSUS

1. medial facet of proximal artciulation, MT3.
2. lateral facet of proximal articulation, MT4
3. medial distal condyle, MT3
4. lateral distal condyle, MT4
5. anterior distal groove and foramen
6. medial or lateral distal condyle
6. lateral aspect of distal articulation
7. distal pre-epiphyseal portion of the diaphysis

Archive Catalogue of Animal Bone from Church Lane, Cherry Willingham

site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
CWCA99	021	CSZ	SKL	1	F								FRAGMENT	3
CWCA99	026	BOS	AST	1	R		1				L1-67.5 L2-59.5 Bp-43.9 Bd-43.6 Dd-31.9		SL POROUS-IMM?	4
CWCA99	026	BOS	AST	1	L		1				L1-58.6 L2-54.8 Bp-41 Bd-38 Dd-27.1		COMPLETE	4
CWCA99	026	BOS	ATL	1	L			CH					LEFT SIDE-SPLIT DOWN MIDDLE	4
CWCA99	026	BOS	ATL	1	L			CH					LEFT SIDE-SPLIT DOWN MIDDLE	4
CWCA99	026	BOS	AXI	1	F		2						ANT CENTRUM	4
CWCA99	026	BOS	CAL	1	L	PF	123				L-113.7 Dp-33.2 Dd-43.9		COMPLETE	4
CWCA99	026	BOS	CAL	1	L		2						PROX AND DISTAL ENDS BROKEN OFF	4
CWCA99	026	BOS	CQ	1	W		1					P	COMPLETE-PATHOLOGICAL GROWTH AROUND TARSALS	4
CWCA99	026	BOS	DLP3	1	R					g8				4
CWCA99	026	BOS	DLP4	1	L					h14			COMPLETE	4
CWCA99	026	BOS	DUP4	1	L					H15				4
CWCA99	026	BOS	FEM	1	R	DF	4						MEDIAL FRAG DISTAL END	4
CWCA99	026	BOS	FEM	1	R		4						DISTAL SHAFT FRAG	4
CWCA99	026	BOS	HC	1	F			CH					CORE-CHOPPED FROM SKULL-VERY POROUS-IMM?	4
CWCA99	026	BOS	HUM	1	R		69		DG				DISTAL SHAFT-CONDYLES CHEWED OFF	4
CWCA99	026	BOS	HUM	1	L		5						SHAFT FRAG-SL POROUS-IMM	4
CWCA99	026	BOS	HUM	1	F		0						MIDSHAFT FRAG	4
CWCA99	026	BOS	HUM	1	R	DF	9	CH	DG				DISTAL END-CHOPPED THRU CONDYLE	4
CWCA99	026	BOS	INN	1	R		2	CH					ANT ILIUM WITH SACRAL SCAR-ANT CHOPPED	4
CWCA99	026	BOS	INN	1	F								LATERAL FRAG	4
CWCA99	026	BOS	INN	1	F			CH					ISCHIAL SHAFT-CHOPPED AXIALLY	4
CWCA99	026	BOS	INN	1	L				DG				ILIAL SHAFT FRAG-POST CHEWED	4
CWCA99	026	BOS	INN	1	R		239	CH	DG				ILIAL SHAFT WITH SACRAL SCAR-4 PIECES-CHEWED AND CHOPPED	4
CWCA99	026	BOS	LM2	1	L					J6			COMPLETE	4
CWCA99	026	BOS	LM3	1	L					K17			COMPLETE-VERY WORN	4
CWCA99	026	BOS	MAN	1	F								VENTRAL FRAG HORI RAMUS	4
CWCA99	026	BOS	MAN	1	L		123	CH					SYMPHYSEAL FRAG-CHOPPED DOWN MIDDLE	4
CWCA99	026	BOS	MAN	1	R		123			F			DIASTEMAL REGION	4
CWCA99	026	BOS	MAN	1	R		457						DORSAL PART ASC RAMUS- CALF	4
CWCA99	026	BOS	MTC	1	R		12						PROX END- 2 PIECES	4
CWCA99	026	BOS	MTC	1	F								SPLIT DISTAL SHAFT FRAG	4
CWCA99	026	BOS	MTP	1	F	DN	6						DISTAL CONDYLE	4
CWCA99	026	BOS	MTT	1	R	DF	345				Bd-45.4 Dd-28.2		DISTAL END	4
CWCA99	026	BOS	MTT	1	L		12						PROX END-JUV	4
CWCA99	026	BOS	MTT	1	F				DG				SHAFT-2 PIECES- BOTH ENDS CHEWED	4
CWCA99	026	BOS	MTT	1	F								SPLIT SHAFT FRAG	4
CWCA99	026	BOS	PH1	1	R	PF	12						COMPLETE	4
CWCA99	026	BOS	PH1	1	R	PF	12						COMPLETE	4
CWCA99	026	BOS	PH1	1	L	PF	12						COMPLETE	4
CWCA99	026	BOS	PH3	1	R		1						COMPLETE	4
CWCA99	026	BOS	RAD	1	L	PF		CH					FRAG SPLIT PROX END-CHOPPED	4
CWCA99	026	BOS	RAD	1	F				DG				MIDSHAFT-BOTH ENDS CHEWED	4

CWCA99	026	BOS	SAC	1	F								ANT WING	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	026	BOS	SCP	1	F								PART SPINE	4
CWCA99	026	BOS	SCP	1	R		3	CH	DG				ISCHIAL SHAFT-ANT CHOPPED-DISTAL CHEWED	4
CWCA99	026	BOS	SCP	1	F		3						DISTAL FRAG SPINE	4
CWCA99	026	BOS	SCP	1	R								FRAG SPINE	4
CWCA99	026	BOS	SKL	1	L								POST PREMAXILLA	4
CWCA99	026	BOS	SKL	1	L			CH					VENTRAL BASAL FRAG CORE-CHOPPED VENTRALLY	4
CWCA99	026	BOS	SKL	1	L								FRAG BASE CORE	4
CWCA99	026	BOS	SKL	1	R		5						SUPRAORBITAL FRAG FRONTAL	4
CWCA99	026	BOS	SKL	1	L								PREMAXILLA	4
CWCA99	026	BOS	SKL	1	L								PREMAXILLA	4
CWCA99	026	BOS	TIB	1	R	PF	23						SPLIT PROX END	4
CWCA99	026	BOS	TIB	1	L	DN	47						SHAFT	4
CWCA99	026	BOS	TIB	1	L	DF	567						DISTAL END	4
CWCA99	026	BOS	TRV	1	F		15						SPINE AND NEURAL ARCH-ANT THORACIC	4
CWCA99	026	BOS	UM1	1	L					I16			COMPLETE	4
CWCA99	026	BUZZ	FEM	1	L								PROX END AND SHAFT-NOT CHECKED AGAINST KITE	4
CWCA99	026	CAN	RAD	1	L		3		DG				SHAFT-BOTH ENDS CHEWED-LONG AND GRACILE	4
CWCA99	026	CLS	MTC	1	F								MIDSHAFT FRAG	4
CWCA99	026	CLS	MTT	1	R		12						PROX HALF- 2 PIECES	4
CWCA99	026	CSZ	LBF	1	F								SHAFT FRAG-ERODED	3
CWCA99	026	CSZ	LBF	6	F								SHAFT FRAG	4
CWCA99	026	CSZ	LBF	3	F								SHAFT FRAG	4
CWCA99	026	CSZ	LBF	1	F				DG				SHAFT FRAG-CHEWED	4
CWCA99	26	CSZ	LBF	4	F								SHAFT FRAG	4
CWCA99	026	CSZ	LMV	1	F								TRANS PROCESS	4
CWCA99	026	CSZ	LMV	1	F	CFAF	234						CENTRUM	4
CWCA99	026	CSZ	LMV	1	F	CNAN	4						CENTRUM	4
CWCA99	026	CSZ	RIB	1	F								SPLIT PROX SHAFT	4
CWCA99	026	CSZ	RIB	1	F			CH					SHAFT FRAG	4
CWCA99	026	CSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	026	CSZ	RIB	1	F								SPLIT SHAFT FRAG	4
CWCA99	026	CSZ	RIB	1	F								DISTAL SHAFT	4
CWCA99	026	CSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	026	CSZ	RIB	2	F								PROX SHAFT FRAG	4
CWCA99	026	CSZ	RIB	1	F			CH					SHAFT FRAG-PROX CHOPPED	4
CWCA99	026	CSZ	RIB	1	L								PROX SHAFT	4
CWCA99	026	CSZ	RIB	1	L			CH					PROX SHAF FRAG-1STRIB-PROX CHOPPED	4
CWCA99	026	CSZ	RIB	1	F			CH					1ST RIB-SHAFT-PROX CHOPPED	4
CWCA99	026	CSZ	RIB	4	F								SHAFT FRAG	4
CWCA99	026	CSZ	RIB	1	R								PROX SHAFT	4
CWCA99	026	CSZ	RIB	1	F								SPLIT PROX SHAFT FRAG	4
CWCA99	026	CSZ	SKL	2	F								FRAG	4
CWCA99	026	CSZ	SKL	1	F			CH					FACIAL FRAG-CHOPPED	4
CWCA99	026	CSZ	SKL	1	F								FACIAL FRAG	4
CWCA99	026	CSZ	TIB	1	L								PROX SHAFT FRAG	4
CWCA99	026	CSZ	TRV	1	F		5						BASE SPINE	4

CWCA99	026	CSZ	TRV	1	F		1						SPINE	4
CWCA99	026	CSZ	UNI	1	F								INDET	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	026	CSZ	UNI	1	F								INDET	4
CWCA99	026	CSZ	UNI	3	F								INDET	4
CWCA99	026	CSZ	UNI	2	F								INDET	4
CWCA99	026	CSZ	UNI	1	F				DG				FRAG-CHEWED	4
CWCA99	026	EQU	MAN	1	F								ANT SYMPHYSEAL FRAG WITH INC ALVEOLI	4
CWCA99	026	EQU	MTT	1	F	DN	15		DG				SHAFT-DIST EPI UNFUSED-PROX CHEWED	4
CWCA99	026	EQU	SCP	1	F								FRAG CRANIAL MARGIN BLADE	4
CWCA99	026	OVCA	ATL	1	W		12345						NEURAL SHAFT DAMAGED	4
CWCA99	026	OVCA	CAL	1	R	PF	12						DISTAL END BROKEN OFF	4
CWCA99	026	OVCA	CEV	1	W	CJAN	1245	CH					CHOPPED ACROSS POST	4
CWCA99	026	OVCA	HUM	1	R		6		DG				POST DISTAL SHAFT FRAG-DISTAL CHEWED	4
CWCA99	026	OVCA	INN	1	R		39						ILIAL SHAFT	4
CWCA99	026	OVCA	INN	1	R	EF	9						POST ILIAL SHAFT	4
CWCA99	026	OVCA	INN	1	R	EF	39	CH					POST ILIAL SHAFT-SHAFT CHOPPED	4
CWCA99	026	OVCA	INN	1	R	EF	4579		DG				ACETAB+PARTS PUB & ISCHIUM-CHEWED-MALE/WETHER	4
CWCA99	026	OVCA	LM3	1	R					K12			COMPLETE	4
CWCA99	026	OVCA	LM3	1	L					K8			POST CUSPS-NO WEAR	4
CWCA99	026	OVCA	MAN	1	L		4						CORONOID	4
CWCA99	026	OVCA	MAN	1	L		12378			FGH12I13J12 K12	15A-38.2 15B-22.3 15C-17.6		HORIZONTAL RAMUS	4
CWCA99	026	OVCA	MAN	1	L		23			FGH10I12J11			ANT HALF RAMUS	4
CWCA99	026	OVCA	MAN	1	L		237			GH10I12J11K 8			FRAG HORI RAMUS WITH TOOTH ROW	4
CWCA99	026	OVCA	MTC	1	L		12						PROX END AND SHAFT-HIGH WAISTED	4
CWCA99	026	OVCA	MTT	1	L	DF	345				Bd-22.8 Dd-16		DISTAL END	4
CWCA99	026	OVCA	MTT	1	R	DF	12345				GL-141 Bp-21.4 Dp-22.9 SD-13.2		COMPLETE-DISTAL DAMAGED	4
CWCA99	026	OVCA	RAD	1	R		3		DG				MIDSHAFT-DISTAL CHEWED	4
CWCA99	026	OVCA	RAD	1	L	PFDF	123456				GL-157.5 Bp-30.5 Dp-15.9 SD-17 Bd-28.7 Dd-20		COMPLETE	4
CWCA99	026	OVCA	RAD	1	L	PF	123		DG				PROX END AND SHAFT-DISTAL CHEWED	4
CWCA99	026	OVCA	SCP	1	L		5						DISTAL FRAG CAUDAL MARGIN	4
CWCA99	026	OVCA	TIB	1	L	DF	567						DISTAL HALF	3
CWCA99	026	OVCA	TIB	1	R	DF	567				Bd-27.9 Dd-20.2		DISTAL END	4
CWCA99	026	OVCA	TIB	1	L	DF	567				Bd-23.3 Dd-18		DISTAL HALF	4
CWCA99	026	OVCA	TIB	1	R	DF	567				Bd-26.3 Dd-19.3		DISTAL END	4
CWCA99	026	OVCA	TIB	1	L	DF	567				SD-14.4 Bd-26.6 Dd-20		DISTAL HALF	4
CWCA99	026	OVCA	TRV	1	W	CJAJ	12345						COMPLETE	4
CWCA99	026	OVI	HC	1	L		1						CORE-WETHER OR FEMALE	4
CWCA99	026	SSZ	RIB	2	F			CH					SHAFT FRAG-ONE END CHOPPED	4
CWCA99	026	SSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	026	SSZ	RIB	1	R								PROX SHAFT	4
CWCA99	026	SUS	CAL	1	L	PN	23	KN					PROX EPI LOST-CUT MARKS-JL-61	4
CWCA99	026	SUS	FEM	1	R								SHAFT	4
CWCA99	026	SUS	FEM	1	R		4		DG				DISTAL SHAFT-DISTAL CHEWED	4
CWCA99	026	SUS	HUM	1	R	DN	690		DG				SHAFT-PROX CHEWED	4

CWCA99	026	SUS	INN	1	R	EF	4579						ACETAB AND PART ISCHIAL SHAFT	4
CWCA99	026	SUS	INN	1	R	EF	39		DG				ILAIL SHAFT-ANT CHEWED	4
CWCA99	026	SUS	MC4	1	R	DJ	123						PROX END DAMAGED	4
CWCA99	026	SUS	RAD	1	L	PFDN	1236						PROX END AND SHAFT-JL-114	4
CWCA99	026	SUS	SKL	1	R								PREMAXILLA	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	026	SUS	TIB	1	L	DJ	567						DISTAL END	4
CWCA99	026	SUS	TIB	1	R	PNDN	47						SHAFT	4
CWCA99	026	SUS	ULN	1	L		23						SEMILUNARIS AND SHAFT	4
CWCA99	026	SUS	ULN	1	L	PN	23		DG				PROX HALF-PROX END CHEWED OFF	4
CWCA99	026	SUS	ULN	1	L								MIDSHAFT FRAG	4
CWCA99	026	UNI	UNI	1	F								INDET	4
CWCA99	026	UNI	UNI	1	F								INDET	4
CWCA99	027	BOS	AST	1	R		1				L1-60 L2-54.7 Bp-38.8 Bd-38.3 Dd-28.3		COMPLETE	4
CWCA99	027	BOS	AXI	1	F		24	CH					ANT CENTRUM-CHOPPED TRANS POSTERIORLY-LARGE	4
CWCA99	027	BOS	C23	1	R		1						COMPLETE	4
CWCA99	027	BOS	HC	1	F		1						CORE-POROUS-IMM	4
CWCA99	027	BOS	HYD	1	F								ONE END	4
CWCA99	027	BOS	INN	1	R		23		DG				ILIAL SHAFT-ANT CHEWED	4
CWCA99	027	BOS	LI	1	W								VERY VERY WORN	4
CWCA99	027	BOS	MAN	1	L		7						ANT PART ASC RAMUS	4
CWCA99	027	BOS	MTC	1	L	DF	345				Bd-52.9		DISTAL END	4
CWCA99	027	BOS	MTT	1	F								SPLIT PROX SHAFT FRAG	4
CWCA99	027	BOS	PH1	1	R	PF	12						COMPLETE	4
CWCA99	027	BOS	PH1	1	L	PF	12						COMPLETE	4
CWCA99	027	BOS	PH1	1	L	PN	2						PROX EPI LOST	4
CWCA99	027	BOS	PH2	1	L	PF	12						COMPLETE	4
CWCA99	027	BOS	PH2	1	R	PF	12						COMPLETE	4
CWCA99	027	BOS	PH3	2	R								COMPLETE	4
CWCA99	027	BOS	RAD	1	L	DN	45						DISTAL EPI-LARGE	4
CWCA99	027	BOS	SCP	1	L								PROX FRAG CAUDAL MARGIN	4
CWCA99	027	BOS	SCP	1	L				DG				FRAG PROX CRANIAL MARGIN-PROX CHEWED	4
CWCA99	027	BOS	SCP	1	L		5						DISTAL CAUDAL MARGIN OF BLADE	4
CWCA99	027	BOS	SCP	1	L		3						FRAG GLENOID AND NECK	4
CWCA99	027	BOS	SKL	1	R		7						ANT SUPRAORBITAL FRAG FRONTAL	4
CWCA99	027	BOS	SKL	1	R			CH					FRONTAL WITH BASE HORN CORE-CORE CHOPPED OFF	4
CWCA99	027	BOS	SKL	1	R								PREMAXILLA	4
CWCA99	027	BOS	SKL	1	L								TEMPORAL FRAG ZYGOMATIC ARCH	4
CWCA99	027	BOS	SKL	1	R								PREMAXILLA	4
CWCA99	027	BOS	TIB	1	R	DF	567				Bd-51.5 Dd-38.4		DISTAL END	4
CWCA99	027	BOS	TIB	1	L	DN	567						DISTAL END-EPI LOOSE	4
CWCA99	027	BOS	TIB	1	L								MIDSHAFT FRAG	4
CWCA99	027	BOS	TIB	1	R								MIDSHAFT FRAG	4
CWCA99	027	BOS	ULN	1	R		3						DISTAL PART PROX ARTIC AND SHAFT-IMM	4
CWCA99	027	BOS	UMP4	1	R					H12				4
CWCA99	027	CSZ	CEV	1	F								ZYGAPOPHYSIS	4
CWCA99	027	CSZ	LBF	5	F								SHAFT FRAG	4
CWCA99	027	CSZ	LBF	11	F								SHAFT FRAG	4

CWCA99	027	CSZ	LMV	1	F	AN	4	CH					POST CENTRUM-CHOPPED TRANSVERSELY	4
CWCA99	027	CSZ	RIB	1	L			CH					PROX SHAFT FRAG-PROX AND DISTAL CHOPPED	4
CWCA99	027	CSZ	RIB	1	R			CH	DG				PROX SHAFT-PROX CHEWED-DISTAL CHOPPED	4
CWCA99	027	CSZ	RIB	3	R								PROX HALF SHAFT	4
CWCA99	027	CSZ	RIB	2	L								PROX SHAFT	4
CWCA99	027	CSZ	RIB	2	F			CH					SHAFT FRAG-ONE ENBD CHOPPED	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	027	CSZ	RIB	8	F								SHAFT FRAG	4
CWCA99	027	CSZ	SKL	6	F								INDET	4
CWCA99	027	CSZ	SKL	1	F								FACIAL-NASAL FRAG	4
CWCA99	027	CSZ	TIB	1	L								PROX SHAFT FRAG	4
CWCA99	027	CSZ	TRV	1	F								SPINE FRAG	4
CWCA99	027	CSZ	TRV	1	F		5						BASE SPINE	4
CWCA99	027	CSZ	TRV	2	F								FRAG BASE SPINE	4
CWCA99	027	CSZ	TRV	1	F	AF	5		DG				BASE SPINE-NEURAL ARCH-CHEWED	4
CWCA99	027	CSZ	UNI	1	F								INDET-CHARRED?	4
CWCA99	027	CSZ	UNI	7	F								INDET	4
CWCA99	027	CSZ	UNI	16	F								INDET	4
CWCA99	027	LBIRD	SCP	3	F								BLADE FRAGS-SWAN SIZE	4
CWCA99	027	LBIRD	TIB	1	F								SHAFT FRAG-SWAN SIZE OR BIGGER	4
CWCA99	027	LBIRD	ULN	1	F								SHAFT-SWAN SIZE	4
CWCA99	027	LBIRD	ULN	2	F								SHAFT FRAG-SWAN SIZE	4
CWCA99	027	OVCA	MAN	1	L		4578			K7			ASC RAMUS WITH M3	4
CWCA99	027	OVCA	FEM	1	F								DISTAL SHAFT FRAG	4
CWCA99	027	OVCA	FEM	1	F								MIDSHAFT FRAG	4
CWCA99	027	OVCA	FEM	1	R		4						MID AND DISTAL SHAFT	4
CWCA99	027	OVCA	LM	1	R					J/K6			ANT CUSP-PROB M2	4
CWCA99	027	OVCA	MAN	1	L		5						POST FRAG ASC RAMUS	4
CWCA99	027	OVCA	MAN	1	L		237		DG	fgh10I4J0			HORI RAMUS-LAMB	4
CWCA99	027	OVCA	MAN	1	R		123			fgh13I12			ANT HALF RAMUS	4
CWCA99	027	OVCA	MAN	1	L		123			GH10I13J12			ANT TWO THIRDS HORI RAUS	4
CWCA99	027	OVCA	MAX	1	R					h13			FRAG WITH DP4	4
CWCA99	027	OVCA	MTC	1	R		12						PROX END AND SHAFT	4
CWCA99	027	OVCA	MTP	1	F								SPLIT SHAFT FRAG	4
CWCA99	027	OVCA	MTT	1	R		12		DG				PROX END AND SHAFT-DISTAL CHEWED	4
CWCA99	027	OVCA	MTT	1	F				DG				SPLIT SHAFT FRAG-PROX CHEWED	4
CWCA99	027	OVCA	PH1	1	R	PF	12						COMPLETE	4
CWCA99	027	OVCA	RAD	1	F								DISTAL SHAFT	4
CWCA99	027	OVCA	RAD	1	L				DG				SPLIT MIDSHAFT-CHEWED	4
CWCA99	027	OVCA	RAD	1	F								SPLIT MIDSHAFT FRAG	4
CWCA99	027	OVCA	RAD	1	L				DG				SPLIT PROX SHAFT-PROX CHEWED	4
CWCA99	027	OVCA	TIB	1	R		4						MID AND DISTAL SHAFT	4
CWCA99	027	OVCA	ULN	1	F								MIDSHAFT	4
CWCA99	027	OVCA	UM2	1	L					J8				4
CWCA99	027	SSZ	LBF	7	F								SHAFT FRAG	4
CWCA99	027	SSZ	RIB	4	F								SHAFT FRAG	4
CWCA99	027	SSZ	RIB	4	F								SHAFT	4
CWCA99	027	SSZ	RIB	1	F			CH					SHAFT FRAG-PROX CHOPPED	4

CWCA99	027	SSZ	SKL	1	F								INDET	4
CWCA99	027	SSZ	SKL	1	F								?ZYGOMATIC	4
CWCA99	027	SSZ	TRV	1	F		15						SPINE AND PART NEURAL ARCH	4
CWCA99	027	SUS	CAL	1	R	PN	23		DG				PROX EPI LOST-WELL CHEWED	4
CWCA99	027	SUS	LC	1	F								ENAMEL FRAG-MALE	4
CWCA99	027	SUS	LC	1	L								FEMALE	4
CWCA99	027	SUS	LI	1	W								TOOTH	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	027	SUS	LMV	1	F	CNAN	45	CH					CENTRUM AND ARCH-CHOPPED DOWN SIDE	4
CWCA99	027	SUS	LMV	1	F		5						ANT PART NEURAL ARCH	4
CWCA99	027	SUS	MAN	1	L		123678			fgh14I7J1K0			HORIZONTAL RAMUS	4
CWCA99	027	SUS	MAX	1	L								ANT MAXILLA-FEMALE	4
CWCA99	027	SUS	MT2	1	L	DF	123				GL-57.5		COMPLETE	4
CWCA99	027	SUS	PH1	1	L	PF	12						COMPLETE	4
CWCA99	027	SUS	RAD	1	F				DG				SPLIT DISTAL SHAFT FRAG-DISTAL CHEWED	4
CWCA99	027	SUS	SCP	1	R		345	CH	DG				DISTAL BLADE AND NECK-DISTAL CHEWED	4
CWCA99	027	SUS	SKL	1	R		68						TEMPORAL AND PART FRONTAL-SUTURES OPEN	4
CWCA99	027	SUS	SKL	1	L								ZYGOMATIC ARCH	4
CWCA99	027	SUS	TRV	1	F		1						SPINE-JUV	4
CWCA99	027	UNI	UNI	7	F								INDET	4
CWCA99	027	UNIB	RAD	1	F								DISTAL END-GSSZ?	4
CWCA99	027	UNIB	RIB	1	F								SHAFT	4
CWCA99	027	UNIB	STN	1	F								LATERAL FRAG STERNUM-GSSZ?	4
CWCA99	060	BOS	HC	1	F		1						CORE TIP-POROUS-IMM	4
CWCA99	060	BOS	MAX	1	L					g10h10			TWO PIECES-ALL BELOW AND ABOVE FROM SAME SKULL?	4
CWCA99	060	BOS	MAX	1	R		9			fgh10I4			M1 LOOSE	4
CWCA99	060	BOS	SKL	1	F								HORN CORE STUB-CALF	4
CWCA99	060	BOS	SKL	1	F								FRONTAL-SUTURES OPEN-CALF	4
CWCA99	060	BOS	SKL	1	L								ZYGOMATIC ARCH-SAME SKULL AS ABOVE?-CALF	4
CWCA99	060	BOS	SKL	1	R								ANT FRONTAL-CALF	4
CWCA99	060	BOS	UM1	1	R					I15				4
CWCA99	060	CSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	060	OVCA	SCP	1	R		35						DISTAL BLADE	4
CWCA99	060	OVCA	SKL	1	L								ZYGOAMTIC ARCH	4
CWCA99	060	OVCA	UM3	1	R					K10				4
CWCA99	060	OVI	MAX	1	R		90			FGH12I13J12			MAXILLA WITH ANT TOOTH ROW	4
CWCA99	060	OVI	SKL	1	R		6						FRONTAL AND TEMPORAL FRAG	4
CWCA99	060	SSZ	LBF	1	F								SPLIT SHAFT FRAG	4
CWCA99	060	SSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	060	SSZ	SKL	1	F								INDET	4
CWCA99	060	UNI	SKL	3	F								INDET	4
CWCA99	062	BOS	HUM	1	L		0		DG				PROX SHAFT FRAG-PROX CHEWED	4
CWCA99	062	BOS	PH3	1	R		1						COMPLETE	4
CWCA99	062	OVCA	SCP	1	R								CRANIAL MARGIN OF BLADE	4
CWCA99	064	CSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	066	BOS	CQ	1	W		1						COMPLETE-SL POROUS-IMM	4
CWCA99	066	CSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	066	SUS	MAN	1	L		7			K8			POST FRAG TOOTH ROW-M3L-34.3- 2 PIECES	4

CWCA99	068	BOS	MTT	1	F								PROX POST SHAFT FRAG	4
CWCA99	069	BOS	MAN	1	R								FRAG ANT RAMUS WITH PM ALVEOLI	4
CWCA99	069	BOS	MTT	1	F								ANT MIDSHAFT FRAG	4
CWCA99	069	BOS	PH3	1	L		1						COMPLETE	4
CWCA99	069	BOS	SCP	1	L								FRAG CAUDAL MARGIN OF BLADE	4
CWCA99	069	BOS	SCP	1	R		5						DISTAL FRAG CAUDAL MARGIN OF BLADE	4
CWCA99	069	BOS	SCP	1	F								PART SPINE	4
CWCA99	069	CSZ	CEV	1	L	CNAN	4	CH					CHOPPED TRANSVERSELY	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	069	CSZ	CEV	1	F		15						NEURAL ARCH LAST CERVICAL VERT	4
CWCA99	069	CSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	069	CSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	069	CSZ	RIB	1	R								PROX SHAFT FRAG	4
CWCA99	069	CSZ	SKL	4	F								CRANIAL FRAGS	4
CWCA99	069	CSZ	TRV	1	F	CNAN	4						CENTRUM	4
CWCA99	069	CSZ	TRV	1	F		1						SPINE	4
CWCA99	069	CSZ	TRV	1	F		5						BASE SPINE AND NEURAL ARCH	4
CWCA99	069	CSZ	TRV	1	F	AN	4						POST CENTRUM	4
CWCA99	069	CSZ	UNI	1	F								INDET	4
CWCA99	069	CSZ	UNI	2	F								INDET	4
CWCA99	069	CSZ	VER	2	F								INDET	4
CWCA99	069	OVCA	AST	1	R		1	C					BROKEN-CALCINED	4
CWCA99	069	OVCA	FEM	1	R	DF	4567				Bd-35 Dd-43.9		DISTAL END	4
CWCA99	069	OVCA	HUM	1	R								DISTAL SHAFT FRAG	4
CWCA99	069	OVCA	HUM	1	R								MIDSHAFT FRAG	4
CWCA99	069	OVCA	HUM	1	L	DF	6789				BT-29.8 HT-19.4		DISTAL END	4
CWCA99	069	OVCA	LM1	1	L					I13				4
CWCA99	069	OVCA	RAD	1	L	PFDF	123456				GL-15 Bp-30 Dp-15.4 SD-16.5 Bd-27.8 Dd-19.2		COMPLETE	4
CWCA99	069	OVCA	RAD	1	L								SPLIT MIDSHAFT FRAG	4
CWCA99	069	OVCA	SCP	1	L		235						GLENOID AND NECK	4
CWCA99	069	OVCA	UM2	1	L					J9				4
CWCA99	069	SSZ	LBF	1	F				DG				SHAFT FRAG-CHEWED	4
CWCA99	069	SSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	069	SSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	069	SSZ	RIB	1	F								SHAFT	4
CWCA99	069	SSZ	RIB	1	L								PROX SHAFT	4
CWCA99	069	SSZ	RIB	1	R								PROX SHAFT	4
CWCA99	069	SSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	069	SUS	INN	1	R		3						POST ISCHIAL SHAFT	4
CWCA99	069	SUS	MT4	1	L	DN	12						PROX END AND SHAFT-JL-72.3	4
CWCA99	069	SUS	PH1	1	R	PF	12						COMPLETE	4
CWCA99	069	SUS	SKL	1	L		3456789			GH7I12J7K4			LEFT SIDE-SUTURES OPEN-SPLIT DOWN RIGHT SIDE-3 PIECES	4
CWCA99	069	SUS	ULN	1	R		2		DG				SEMILUNARIS FRAG-CHEWED	4
CWCA99	069	UNI	SKL	1	F								INDET	4
CWCA99	069	UNI	UNI	2	F								INDET	4
CWCA99	071	BOS	MAN	1	R		2						DIASTEMAL FRAG	4

CWCA99	071	BOS	MTT	1	R		12						PROX END AND PART SHAFT	4
CWCA99	071	BOS	RAD	1	L	DN	45						DISTAL EPI	4
CWCA99	071	CSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	071	CSZ	UNI	4	F								INDET	4
CWCA99	071	OVCA	RAD	1	R		3						SHAFT	4
CWCA99	071	OVCA	SKL	1	L		8						TENMPORAL FACET	4
CWCA99	071	SSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	071	SUS	FIB	1	F	DN							DISTAL SHAFT	4
CWCA99	076	BOS	MTT	1	L	DN	5		DG				SHAFT-BOTH ENDS CHEWED	4
CWCA99	076	CSZ	MAN	1	R		7						FRAG ASC RAMUS-POSS CALF?	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	080	CSZ	TRV	1	F								BASE SPINE	4
CWCA99	090	BOS	DUP3	1	R					g14				4
CWCA99	090	BOS	FEM	1	L		4						MID AND DISTAL SHAFT-CALF	4
CWCA99	090	BOS	INN	1	L	EF	4	CH					PUBIC FRAG ACETABULUM-CHOPPED DOWN SYMPHYSIS	4
CWCA99	090	BOS	INN	1	R	EF	5						POST FRAG ACETABULUM	4
CWCA99	090	BOS	MTC	1	F	DN	5						DISTAL SHAFT	4
CWCA99	090	BOS	MTT	1	L	DF	345				Bd-44.3 Dd-25.8		DISTAL END	4
CWCA99	090	BOS	MTT	1	L		12	CH					PROX END AND SHAFT-CHOPPED	4
CWCA99	090	BOS	TIB	1	R	PN	47		DG				SHAFT-DISTAL CHEEWED-CALF	4
CWCA99	090	BOS	UM2	1	L					J8				4
CWCA99	090	BOS	UM2	1	R					J12				4
CWCA99	090	CSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	090	CSZ	LMV	1	L								ANT ZYGAPOPHYSIS	4
CWCA99	090	CSZ	RIB	2	F								SHAFT FRAG	4
CWCA99	090	CSZ	SKL	4	F								CRANIAL FRAG	4
CWCA99	090	CSZ	TRV	1	F		5						NEURAL ARCH	4
CWCA99	090	CSZ	UNI	2	F								INDET	4
CWCA99	090	EQU	FEM	1	R	DF	456	C					DAMAGED AND CHARRED DISTAL END	4
CWCA99	090	EQU	INN	1	L	EF	5						ACETABULAR FRAG	4
CWCA99	090	EQU	MAN	1	L								FRAG WITH PM2 ALVEOLUS	4
CWCA99	090	EQU	TIB	1	L	DF	456				Bd-69.8 Dd-42.9		DISTAL END	4
CWCA99	090	EQU	UM	1	R									4
CWCA99	090	FEL	SKEL	1	F								2 RADII-2 ULNAE AND DISTAL HUM-VERYGOOD CONDITION	5
CWCA99	090	OVCA	FEM	1	R		4						DISTAL SHAFT FRAG	4
CWCA99	090	OVCA	INN	1	R		3		DG				ILIAL SHAFT-PROX CHEWED-MALE?	4
CWCA99	090	SSZ	RAD	1	F								MIDSHAFT FRAG	4
CWCA99	090	SSZ	RIB	1	R								PROX SHAFT	4
CWCA99	091	BOS	HUM	1	R	DN	69						DISTAL SHAFT	4
CWCA99	091	BOS	LM2	1	L					J12				4
CWCA99	091	BOS	UM1	1	R					I7			CUSPS DAMAGED	4
CWCA99	091	CSZ	CEV	1	F	CNAN	4		DG				CENTRUM-CHEWED	4
CWCA99	091	CSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	091	OVCA	CAL	1	R								MIDSHAFT FRAG	4
CWCA99	091	OVCA	HUM	1	L		0						DISTAL HALF SHAFT	4
CWCA99	091	SSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	091	SSZ	RIB	1	F								SHAFT FRAG	4

CWCA99	091	UNI	SKL	3	F								INDET	4
CWCA99	091	UNI	UNI	1	F								INDET	4
CWCA99	093	BOS	HC	1	R		1						TIP LOST-UPWARD AND BACKWARD CURVING	4
CWCA99	093	BOS	MAN	1	R		8						FRAG ASC RAMUS	4
CWCA99	093	CSZ	SKL	1	F								INDET	4
CWCA99	093	CSZ	UNI	3	F								INDET	4
CWCA99	093	SSZ	LBF	1	F			CH	DG				SHAFT FRAG	4
CWCA99	095	BOS	CEV	1	F	CFAN	245						CENTRUM AND NEURAL ARCH	4
CWCA99	095	BOS	PH1	1	L	PF	12						PERIPHREAL DAMAGE	4
CWCA99	095	CSZ	RIB	1	L								SHAFT	4
CWCA99	095	CSZ	TRV	1	F		1						BASE SPINE- 2 PIECES	4
CWCA99	095	OVCA	CEV	1	F	CFAN	1245						CENTRUM AND ARCH	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	095	OVCA	TIB	1	L		4		DG				PROX SHAFT-PROX CHEWED	4
CWCA99	095	UNI	UNI	1	F								INDET	4
CWCA99	097	BOS	ATL	1	L								DAMAGED LEFT SIDE	4
CWCA99	097	BOS	HUM	1	R				DG				DISTAL SHAFT FRAG-CHEWED	4
CWCA99	097	BOS	HUM	1	R		60		DG				MID AND DISTAL SHAFT	5
CWCA99	097	BOS	HUM	1	L	DF	567890	CH	DG		SD-36.6 BT-80 HT-43.4		DISTAL END AND SHAFT-PROX CHEWED-SHAFT CHOPPED	4
CWCA99	097	BOS	INN	1	F	CF							ANT ILUM	4
CWCA99	097	BOS	INN	1	L	EF	359						ACETAB AND ILIAL SHAFT-FEMALE	4
CWCA99	097	BOS	MAX	1	L		90						ALVEOLI FOR ADULT DENTITION	4
CWCA99	097	BOS	MTT	1	R	DF	12345				GL-212 Bp-47.4 Dp-46.2 SD-26.2 Bd-55 Dd-29.8		COMPLETE	5
CWCA99	097	BOS	RAD	1	R	PFDF	23456	CH			GL-287 SD-42.5 Bd-75.8		COMPLETE EXCEPT FOR CHOPP OUT OF PROX EPI	5
CWCA99	097	BOS	SCP	1	R		25						GLENOID AND CAUDAL MARGIN OF NECK	4
CWCA99	097	BOS	SKL	1	L								PREMAXILLA	4
CWCA99	097	BOS	ULN	1	R								SHAFT FRAG-2 PIECES-IMM	4
CWCA99	097	BOS	ULN	1	R		3	CH	DG				SHAFT-PROX END CHOPPED OFF	5
CWCA99	097	CSZ	RIB	1	L								PROX SHAFT	4
CWCA99	097	CSZ	SKL	2	F								INDET	4
CWCA99	097	OVCA	TIB	1	R		4		DG				MIDSHAFT-BOTH ENDS CHEWED	4
CWCA99	097	SUS	INN	1	F								LATERAL FRAGMENT	4
CWCA99	097	SUS	LI	1	R								SL WEAR	4
CWCA99	097	SUS	MAX	1	R		90			efgh15I8J4K1			FRAG WITH TOOTH ROW	4
CWCA99	097	SUS	SKL	1	R		5						ANT HALF FRONTAL-SUTURES OPEN	4
CWCA99	107	BOS	MAN	1	F		4		DG				CORONOID-CHEWED	3
CWCA99	107	CSZ	SAC	1	F		4						CENTRUM	3
CWCA99	107	SUS	PH1	1	L	PN	2						DISTAL HALF	4
CWCA99	109	BOS	MTP	1	F	DF	6						DISTAL CONDYLE	4
CWCA99	109	BOS	SAC	1	F	CF	4						CENTRUM 1ST SACRAL VERT	4
CWCA99	109	BOS	SKL	1	F		35			h15I12J9K1			FRAGMENTED SKULL WITH BASE HORN CORE- 22 PIECES	4
CWCA99	120	BOS	FEM	1	L		4						DISTAL SHAFT FRAG	4
CWCA99	120	BOS	HUM	1	R	DF	890	CH			HT-45		ASPLIT DISTAL END	4
CWCA99	120	BOS	LM2	1	L					J12				4
CWCA99	120	BOS	MAN	1	L		12367			I15J14K11	15A-63.2 15B-45 15C-34.5		HORIZONTAL RAMUS-PM2 CONGENITALLY ABSENT	4
CWCA99	120	BOS	MAN	1	L		123						DIASTEMAL REGION	4
CWCA99	120	BOS	MTC	1	R		12	CH	DG				PROX END AND SHAFT-DISTAL CHEWED-SHAFT CHOPPED	4

CWCA99	120	BOS	MTC	1	L		12		DG				PROX END AND SHAFT-PROX CHEWED	4
CWCA99	120	BOS	MTT	1	R			CH					POST PROX FRAG-SHAFT CUT	4
CWCA99	120	BOS	RAD	1	R	PF	1		DG				SPLIT PROX END AND SHAFT-CHEWED	4
CWCA99	120	BOS	RAD	1	L	PFDF	12456	C			GL-257 SD-36.7		PROX AND DISTAL ENDS BROKEN- 2 PIECES-DISTAL SHAFT CHARRED	4
CWCA99	120	BOS	RIB	1	R	PN							PROX SHAFT	4
CWCA99	120	BOS	TIB	1	R	DF	4567				SD-37.6 Bd-60.8		DISTAL END AND SHAFT-DIST DAMAGED	4
CWCA99	120	BOS	TIB	1	R	DF	567				SD-35 Dd-41.4		DISTAL HALF-EPI DAMAGED	4
CWCA99	120	BOS	TIB	1	L	DF	567				Bd-61.7 Dd-45		DISTAL END	4
CWCA99	120	BOS	TIB	1	R		4						PROX SHAFT	4
CWCA99	120	BOS	ULN	1	L		3	CH					FRAG PROX SHAFT-CHOPPED	4
CWCA99	120	CSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	120	CSZ	MAN	1	F								FRAG HORI RAMUS	4
CWCA99	120	CSZ	RIB	1	F								SHAFT FRAG	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	120	CSZ	SKL	1	F								INDET	4
CWCA99	120	CSZ	UNI	1	F								INDET	4
CWCA99	120	EQU	INN	1	L	EF	234578		DG				PERIPHERAL DAMAGE-EDGES CHEWED	4
CWCA99	120	EQU	MPL	1	W								LATERAL SPLINT	4
CWCA99	120	EQU	MTC	1	R		12	CH	DG				PROX END AND SHAFT-PROX CHEWED-MIDSHAFT CHOPPED	4
CWCA99	120	EQU	SAC	1	L								LEFT SIDE ANT SACRUM	4
CWCA99	120	EQU	TIB	1	L								ANT MIDSHAFT FRAG	4
CWCA99	120	OVI	HC	1	R		1	CH					RAM OR WETHER- 3 PIECES-CHOPPED FROM SKULL	4
CWCA99	120	OVI	HC	1	R		1						BASE HALF CORE-RAM	4
CWCA99	120	OVI	MTC	1	L	DF	12345				GL-124.1 BP_19.5 SD-13.1 Bd-22.3 DD-13.8		COMPLETE-2 PIECES-PARALLEL	4
CWCA99	120	OVI	SKL	1	F				DG				HORNLESS-PARIETAL AND POST FRONTALS	4
CWCA99	120	SSZ	RIB	1	R								PROX SHAFT	4
CWCA99	120	SUS	HUM	1	L	DF	67890		DG		BT-33 HT-27.9 SD-14.3		DISTAL END AND SHAFT-PROX CHEWED	4
CWCA99	120	SUS	MAN	1	L		1235678			FGH8I16J11K5			HORIZONTAL RAMUS-FEMALE	4
CWCA99	120	SUS	TIB	1	L	PNDC	4567						DISTAL END AND SHAFT-JL-183	4
CWCA99	120	UNI	UNI	1	F								INDET	4
CWCA99	121	BOS	TRV	1	F		15						SPINE AND NERUAL ARCH	4
CWCA99	121	CAN	INN	1	L		23						ANT ILIUM	4
CWCA99	121	CAN	RAD	1	L	PFDF	123456				GL-171 Bp-18.2 SD-13 Bd-23.6		COMPLETE	5
CWCA99	121	CAN	SKL	1	L		90						MAXILLA AND PREMAXILLA	4
CWCA99	121	CAN	TIB	1	L	PFDF	1234567				GL-142 Bp-27.3 SD-10.3 Bd-18.8		COMPLETE-SAME INDIV AS BELOW	4
CWCA99	121	CAN	TIB	1	R	PFDF	1234567				GL-142.4 Bp-27.4 SD-10.5 Bd-18.9		COMPLETE-SAME ANIMAL AS ABOVE	4
CWCA99	121	CSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	121	CSZ	MAN	1	F								LATERAL FRAGMENT	4
CWCA99	121	CSZ	RIB	1	F								SHAFT	5
CWCA99	121	CSZ	RIB	1	L	PF	1						PROX SHAFT	5
CWCA99	121	CSZ	RIB	1	F								SHAFT FRAG	5
CWCA99	121	CSZ	UNI	1	F								INDET	4
CWCA99	121	EQU	FEM	1	R		48		DG				SHAFT-DISTAL CHEWED OFF	4

CWCA99	121	EQU	FEM	1	R	DF	46		DG				DISTAL SHAFT AND PART DISTAL END-DISTAL CHEWED-VERY LARGE- 2 PIECES	4
CWCA99	121	EQU	INN	1	L		46						ANT PUBIS-SYMPHYSIS FUSED	4
CWCA99	121	EQU	INN	1	L	EF	459						ACETAB AND POST ILIAL SHAFT	4
CWCA99	121	EQU	MAN	1	R		123			FGH			ANT HORI RAMUS-PREMOLARS MED WEAR	5
CWCA99	121	EQU	PH3	1	W								COMPLETE	5
CWCA99	121	EQU	RAD	1	L								SPLIT SHAFT	4
CWCA99	121	EQU	SCP	1	R	DF	1235				GLP-91 SLC-59.4		GLENOID AND NECK	4
CWCA99	121	EQU	TIB	1	R	DF	567				SD-38.5 Bd-76.5 Dd-46		DISTAL END	4
CWCA99	121	OVCA	INN	1	R	EF	23		DG				ILIUM-PROX CHEWED	4
CWCA99	121	SMA	RIB	1	F								SHAFT	4
CWCA99	121	SUS	MAN	1	R		1237			gh10I6J1K0			HORIZONTAL RAMUS WITH INCISOR AND TOOTH ROW	4
CWCA99	121	SUS	MAN	1	L		278			F5GH6I9J7K2			SAME INDIV AS ABOVE MANDIBLE	4
CWCA99	121	SUS	MAN	1	R		1231378			GI9J7K2			HORIZONTAL RAMUS-MALE-SYMPHYSIS FUSED-2 PIECES AND LOOSE TEETH	4
CWCA99	121	SUS	MAX	1	R		90			EFGH6I9J6K1			MAXILLA-POSS SAME INDIV AS MANDIBLES ABOVE	4
CWCA99	121	UNI	UNI	2	F								INDET	4
CWCA99	122	SSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	126	BOS	LM1	1	L					I11				4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
CWCA99	126	BOS	MAN	1	R		5					P	CONDYLE OF ASC RAMUS-SURFACE PITTED	4
CWCA99	126	BOS	MTP	1	F	DF	6						FRAG DISTAL CONDYLE	4
CWCA99	126	CSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	126	CSZ	UNI	1	F				DG				CONDYLE FRAG-CHEWED	3
CWCA99	126	EQU	PH1	1	F	PF	12						PROX END BROKEN	4
CWCA99	126	FRT	SKEL	1	F								INN-RUL-URO	4
CWCA99	126	OVCA	MAN	1	F								LATERAL FRAG HORI RAMUS	4
CWCA99	126	OVCA	SCP	1	R		5						DISTAL BLADE	4
CWCA99	126	OVCA	TIB	1	L	DF	567						DISTAL HALF-DAMAGED	3
CWCA99	126	SSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	126	SSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	126	SUS	SCP	1	L		235						GLENOID-NECK AND DISTAL BLADE	4
CWCA99	130	CSZ	UNI	1	F								INDET	4
CWCA99	130	SSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	130	UNI	UNI	2	F								INDET	4
CWCA99	130	UNI	UNI	1	F			C					INDET-CHARRED	4
CWCA99	132	BOS	PH1	1	L		2						DISTAL END	4
CWCA99	132	BOS	RAD	1	L		3						MIDSHAFT-CALF	4
CWCA99	132	CSZ	CEV	1	F								ZYGAPOPHYSIS	4
CWCA99	132	CSZ	UNI	1	F								INDET	4
CWCA99	132	OVCA	LM2	1	R					J12				4
CWCA99	132	OVCA	TIB	1	L								PROX SHAFT	4
CWCA99	132	SUS	MAN	1	F								ANT FRAG RAMUS-MALE	4
CWCA99	132	UNI	UNI	1	F								INDET	4
CWCA99	134	BOS	MAN	1	L				DG				POST FRAG ASC RAMUS-CHEWED	4
CWCA99	134	CSZ	UNI	1	F								INDET	4
CWCA99	134	OVCA	RAD	1	R				DG				SPLIT SHAFT FRAG-DISTAL CHEWED	4
CWCA99	134	OVCA	UM2	1	R					J11				4

CWCA99	134	UNI	UNI	1	F			C					INDET-CHARRED	4
CWCA99	136	BOS	LM2	1	R					J7			POST CUSP-UNWORN	4
CWCA99	136	BOS	MTT	1	R		12						PROX END	4
CWCA99	142	CSZ	CDV	1	W	CFAF	1							4
CWCA99	142	CSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	142	CSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	142	CSZ	RIB	1	F								SPLIT RIB FRAG	4
CWCA99	142	CSZ	SCP	1	R								PROX BLADE FRAG	4
CWCA99	142	CSZ	SKL	1	F								INDET	4
CWCA99	142	CSZ	TRV	1	F		1						BASAL HALF SPINE	4
CWCA99	142	OVCA	PH1	1	L		2						DISTAL HALF	3
CWCA99	142	SSZ	LBF	3	F								SHAFT FRAG	4
CWCA99	142	SSZ	RIB	1	F								PROX SHAFT FRAG	4
CWCA99	142	SSZ	RIB	1	F								SHAFT FRAG	4
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CWCA99	142	UNI	UNI	1	F			C					CALCINED FRAG	4
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CWCA99	144	BOS	MTC	1	R	DF	12345		DG		GL-174 Bp-47.8 SD-26.8		COMPLETE-END CHEWED	4
site	cont	taxa	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv ation
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CWCA99	144	OVI	SKL	1	W		1234567890			I16J13K13			HORNED-EWE?-NASAL REGION LOST- 2 PIECES	4
CWCA99	144	SSZ	TRV	1	F		15						SPINE AND NEURAL ARCH	4
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CWCA99	146	OVCA	SCP	1	R								DISTAL CRANIAL BLADE FRAG	4
CWCA99	148	BOS	PH1	1	L	PF	12						COMPLETE	4
CWCA99	148	BOS	PH1	1	R	PF	12						COMPLETE	4
CWCA99	148	CSZ	LBF	4	F								SHAFT FRAG	4
CWCA99	148	EQU	ATL	1	F			CH					3 PIECES	4
CWCA99	148	OVCA	HUM	1	L		9						DISTAL SHAFT-SMALL	4
CWCA99	148	OVCA	HUM	1	R	DF	6789		DG				DISTAL END-CHEWED-SMALL	4
CWCA99	148	OVCA	MAN	1	F								LATERAL FRAG HORI RAMUS	4
CWCA99	148	OVCA	TIB	1	L				DG				DISTAL SHAFT-CHEWED	4
CWCA99	148	SSZ	LBF	1	F			C					CALCINED SHAFT FRAG	4
CWCA99	148	SSZ	LBF	2	F								SHAFT FRAG	4
CWCA99	148	SUS	FEM	1	L		4						DISTAL SHAFT	3
CWCA99	148	UNI	UNI	2	F								INDET	4
CWCA99	152	BOS	RAD	1	F								SPLIT MIDSHAFT FRAG- 2 PIECES-CALF	4
CWCA99	155	BOS	MAX	1	L					I12			FRAG WITH M1	4
CWCA99	155	CSZ	LBF	1	F								SHAFT FRAG	4
CWCA99	155	CSZ	LBF	2	F			C					CHARRED SHAFT FRAG	4
CWCA99	155	DOVE	COR	1	R						Lm-35.3		DISTAL END BROKEN-SMALLER THAN WOODPIGEON	4
CWCA99	155	SSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	156	BOS	HUM	1	L	PFDF	56890				HT-45		SHAFT AND DISTAL END-CONDYLE BROKEN	4
CWCA99	156	BOS	SCP	1	L	DF	1235				SLC-44		GLENOID NECK AND DISTAL BLADE	4
CWCA99	156	BOS	UM2	1	R					J14			POST CUSP BROKEN	4
CWCA99	163	BOS	ULN	1	L		2						FRAG SEMILUNARIS	4

CWCA99	168	BOS	CEV	1	F	CFAN	245						CENTRUM AND ARCH- 2 PIECES	4
CWCA99	168	BOS	MAN	1	L		23			K13	5A-57.9 15B-42.4 15C-31.4		ANT RAMUS WITH ALVEOLAR ROW AND M3	4
CWCA99	168	EQU	CAL	1	R		23						DISTAL HALF	4
CWCA99	169	CAN	FEM	1	R	PFDF	34567				SD-10.8 Bd-27.7		SHAFT AND DISTAL END-BIGGER THAN ABOVE FEM	4
CWCA99	169	CAN	FEM	1	L	PFDF	1234567				GL-138.8 Bp-31 SD-10.4 Bd-25.6		COMPLETE	4
CWCA99	169	CAN	INN	1	L	EF	234567							4
CWCA99	169	CAN	MAN	1	R								FRAG WITH MOLAR TOOTH ROW-FOX SIZE BUT LOOKS LIKE DOG	4
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CWCA99	169	SSZ	RIB	1	F								SHAFT FRAG	4
CWCA99	170	BOS	MAN	1	L		123678			fgh14I8J1K0			HORIZONTAL RAMUS-2 PIECES	4
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CWCA99	176	BOS	SKEL	1	F						GL-340 Bp-104.5 DC-44.1 SD-32.2 Bd-81 Dd-115		FEM x 2- INNx2-SAC-COMPLETE BONES-ADULT FEMALE-MEASUREMENTS ARE FEM	4
CWCA99	176	SUS	SKEL	1	F					FGH7I12J9K5		P	MANx2-SKL-CEVx7-MANDIBLE WEAR LISTED-MALE-21 PIECES-LARGE SINUS IN FRONT ORBIT	4
CWCA99	176	SUS	SKEL	1	F								TIB-CALx2-MT3 AND MT4-ALL EPIS UNFUSED-LARGE PIGLET	4

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 5: GEOPHYSICAL SURVEY REPORT – AREA A

FLUXGATE GRADIOMETER SURVEY
LAND OFF LADYMEERS ROAD,
CHERRY WILLINGHAM,
LINCOLNSHIRE

Report prepared for City of Lincoln Archaeological Unit.

by James Snee BSc.

September 1999

Pre-Construct Geophysics
61 High Street
Newton on Trent
Lincoln
LN1 2JP
Tel. & Fax. 01777 228129

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Illustrations

Fig.1 Location of survey area. Scale 1: 25,000.

Fig.2 Plan of survey grid. Scale 1:1250.

Fig.3 Smoothed greyscale image. Scale 1: 1000.

Fig.4 Clipped greyscale image. Scale 1: 1000.

Fig.5 Interpretative plan of magnetic anomalies. Scale 1:1000.

Summary

- *A detailed fluxgate gradiometer survey took place to evaluate the archaeological potential of land off Ladymeers Road, Cherry Willingham, Lincolnshire.*

- *The survey detected relatively little magnetic variation, although there were a number of strong anomalies associated with construction work on neighbouring land.*

- *A number of linear anomalies were detected which may be archaeologically significant; a number of small amorphous anomalies may also be of archaeological significance.*

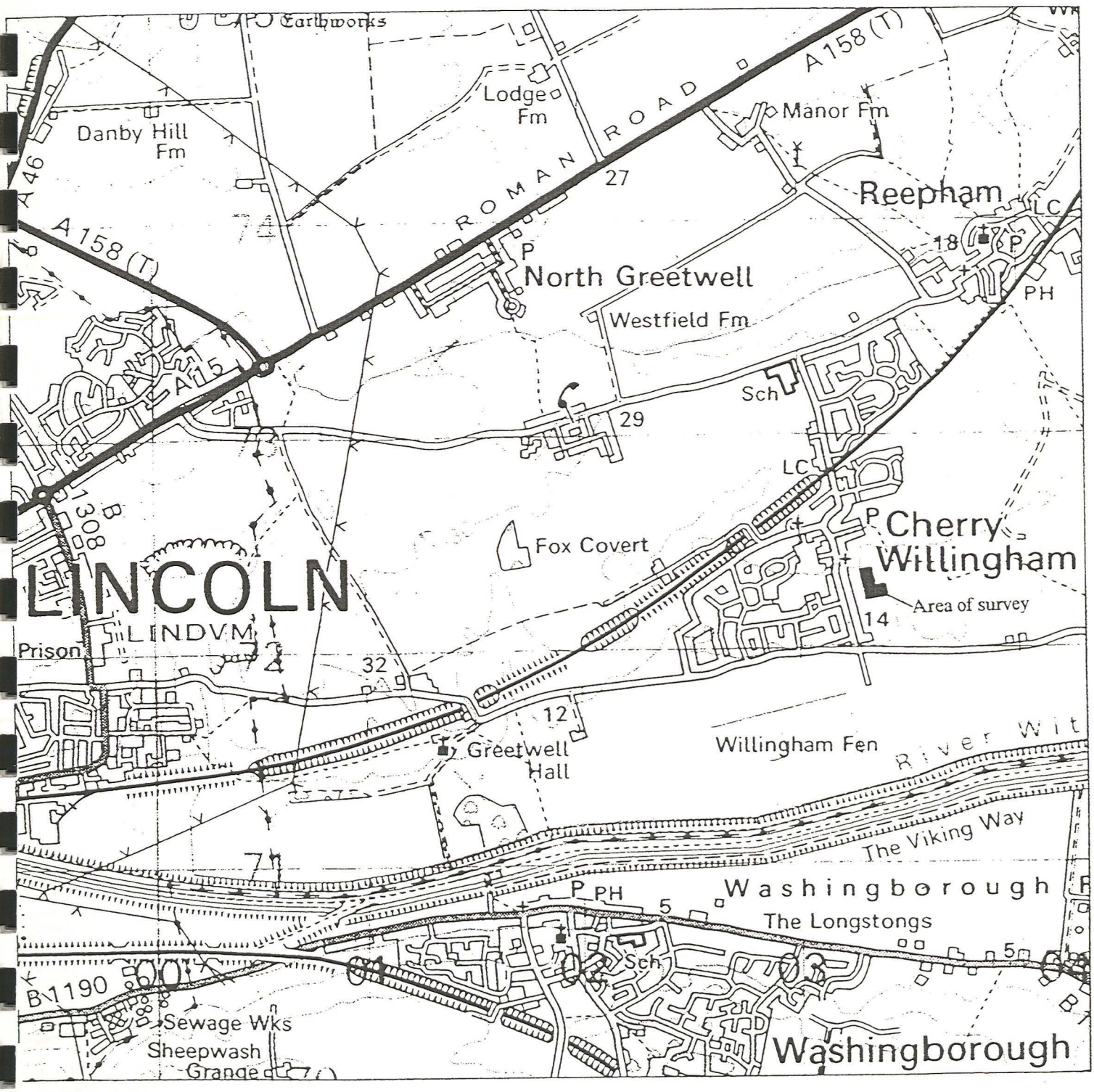


Fig.1 Location of survey area.
Scale 1:25,000.

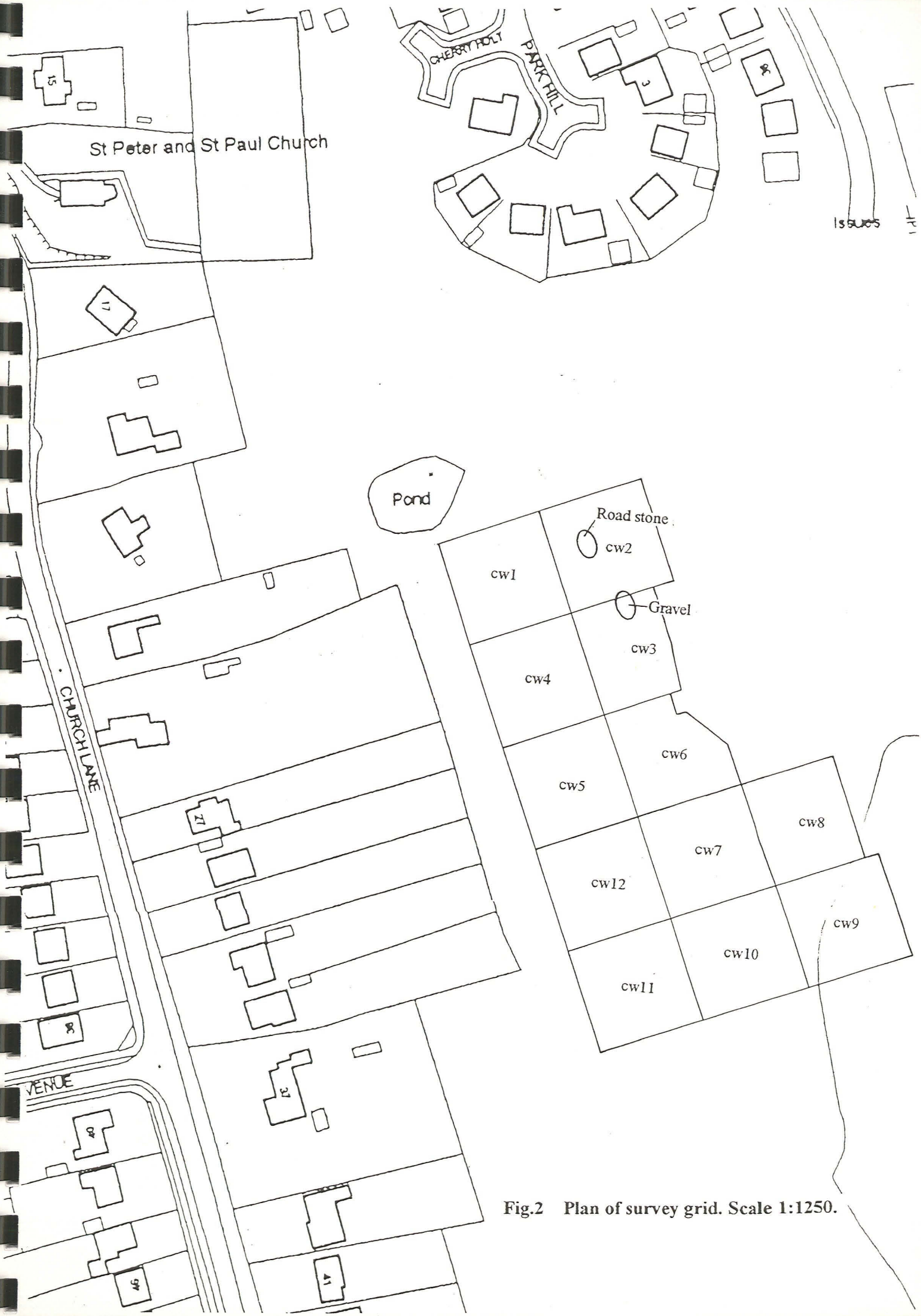


Fig.2 Plan of survey grid. Scale 1:1250.

1.0 Introduction

A detailed fluxgate gradiometer survey was commissioned by the City of Lincoln Archaeology Unit, on behalf of Lindsey Homes, to evaluate the archaeological potential of land off Ladymeers Road, Cherry Willingham, Lincolnshire. This work was undertaken prior to the next phase of construction work for 'The Hawthornes' residential development.

This survey was undertaken in accordance with the guidelines set out in the Lincolnshire County Council Archaeology Section publication *'Lincolnshire Archaeological Handbook; A Manual of Archaeological Practice'*, 1998, and in accordance with the guidelines set out in the English Heritage document *'Geophysical Survey in Archaeological Field Evaluation'*, 1995.

2.0 Location and description

Cherry Willingham is approximately 6km east of Lincoln. The site is located on the east side of the village, on land south-east of St Peter's Church, centred on NGR TF 033 725. It comprises a sub-rectangular unit of approximately 1 hectare.

A significant amount of archaeological remains and artefacts have been discovered in this area of the village, mainly dating from Saxon to medieval times. To the north, a trial excavation recorded drainage gullies, a sunken building and evidence of metal working, all dating from the Saxon and early medieval periods (Field, 1981). Further evidence of metal working has been recorded during a watching brief to the east of the site (M. Jarvis pers. com.).

The land is currently pasture of varying length, with recent residential development to the east, and an electric fence to the west. The site of the current survey is immediately south of a pond that is the last remnant of an earthwork complex. Land south of the survey comprises more pasture, falling away towards Fiskerton Road.

The geology of the area consists of limestone brash, over which lies varying depths of clay and topsoil.

3.0 Methodology

Detailed area survey using a fluxgate gradiometer is a non-intrusive means of evaluating the archaeological potential of a site. The fluxgate gradiometer detects (often discrete) magnetic anomalies caused by areas of high or low magnetic susceptibility. These areas are caused by changes in the composition of the subsoil or the underlying geology. Archaeological features are the result of man-made changes to the composition of the soil and the introduction of intrusive materials such as brick, charcoal and pottery. These features will create detectable magnetic variability. Activities which involve heating and burning will create magnetic anomalies, as will the presence of ferrous metal objects.

By examining the anomalies detected by a fluxgate gradiometer survey, geophysicists can often translate the data into archaeological interpretation.

The area survey was conducted using a *Geoscan Research* fluxgate gradiometer (model FM36) with an electronic sample trigger set to take 4 readings per metre (a sample interval of 0.25m). The zigzag traverse method of survey was used, with 1m wide traverses across 30m x 30m grids. The base line was established approximately parallel to the property boundaries to the west. It was 14m to the east and immediately adjacent to an electric fence. The survey grid was established on this base line with the northern edge 4m south of the pond boundary. To avoid confusion between the grid used for the current survey and marker pegs already established for the developers use, all the pegs used in this survey were removed.

The sensitivity of the machine was set to detect magnetic variation in the order of 0.1 nanoTesla.

The data from the survey was processed using *Geoplot* version 3.0. It was desloped (a means of compensating for sensor drift during the survey by subjecting the data to a mathematical bias sloping in the opposite direction of the bias created by sensor drift). The data was clipped to reduce the distorting effect of extremely high or low readings caused by ferrous metals on the site, and the results were plotted as a number of greyscale images.

The survey was carried out by Mr D Bunn and the writer on the 13th September 1999. The weather was overcast, cool and calm. The area surveyed measured approximately 1.0 hectare.

4.0 Results

The survey did not detect very much magnetic variation across the site. No evidence of ridge and furrow (believed to have once existed) was detected.

The Greatest magnetic variation was located close to the recent residential development to the east, and was caused by modern building materials scattered over this part of the site (Fig.5 : 1).

Five very strong dipolar anomalies were detected. These were all identifiable as modern ferrous objects, such as steel survey pegs (Fig. 5 : 2, 3 & 4).

In the south of survey, a linear series of positive and slightly dipolar anomalies were detected (Fig.5 : 5). The line of these corresponded closely to the position of a low ridge and may indicate that this ridge is not entirely natural. It is possible that the ridge is an old boundary such as a hedge bank and that the anomalies are caused by 'litter' that accumulated in the hedge base. Alternately a similar anomaly could be produced by a ditch that has been filled with rubble.

Fig.3 Smoothed greyscale image.

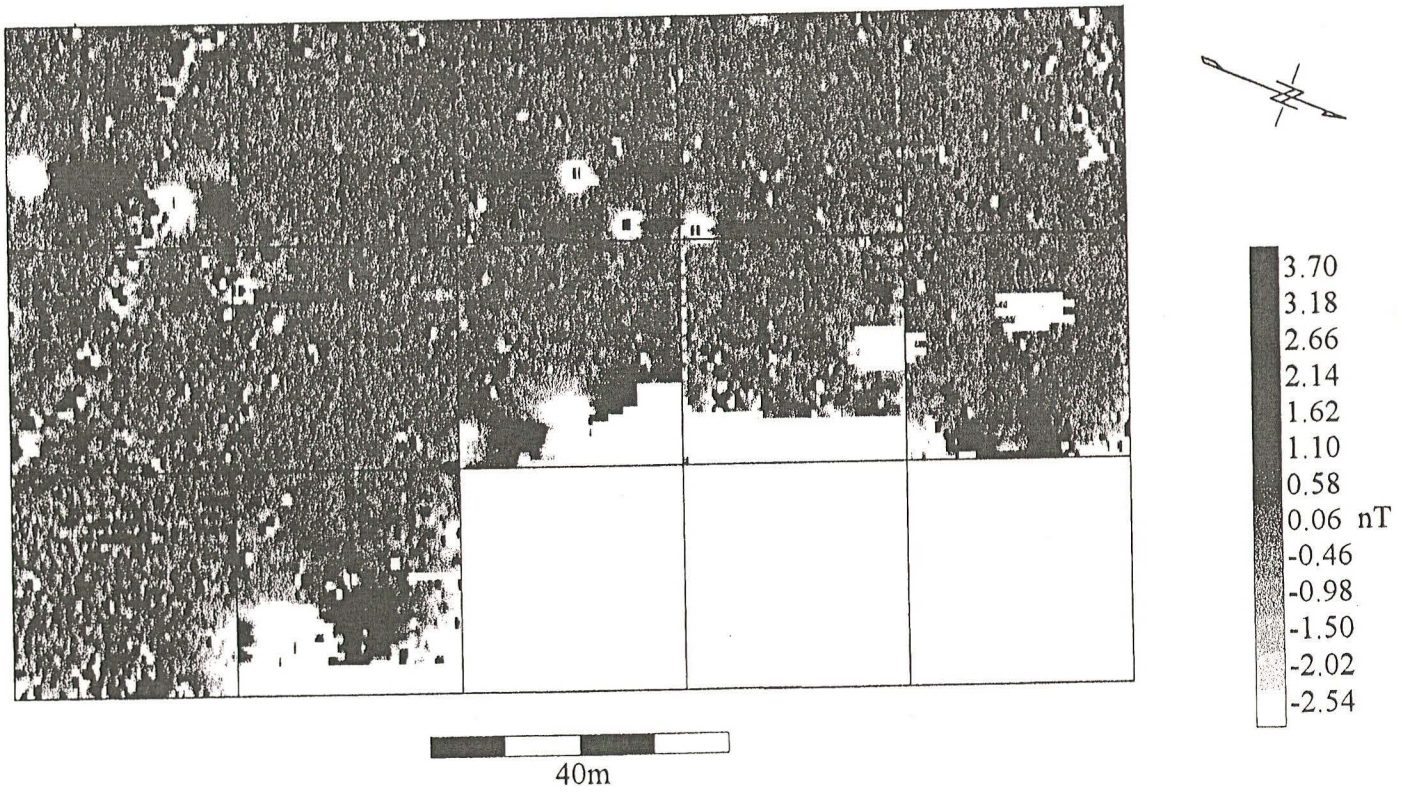


Fig.4 Clipped greyscale image.

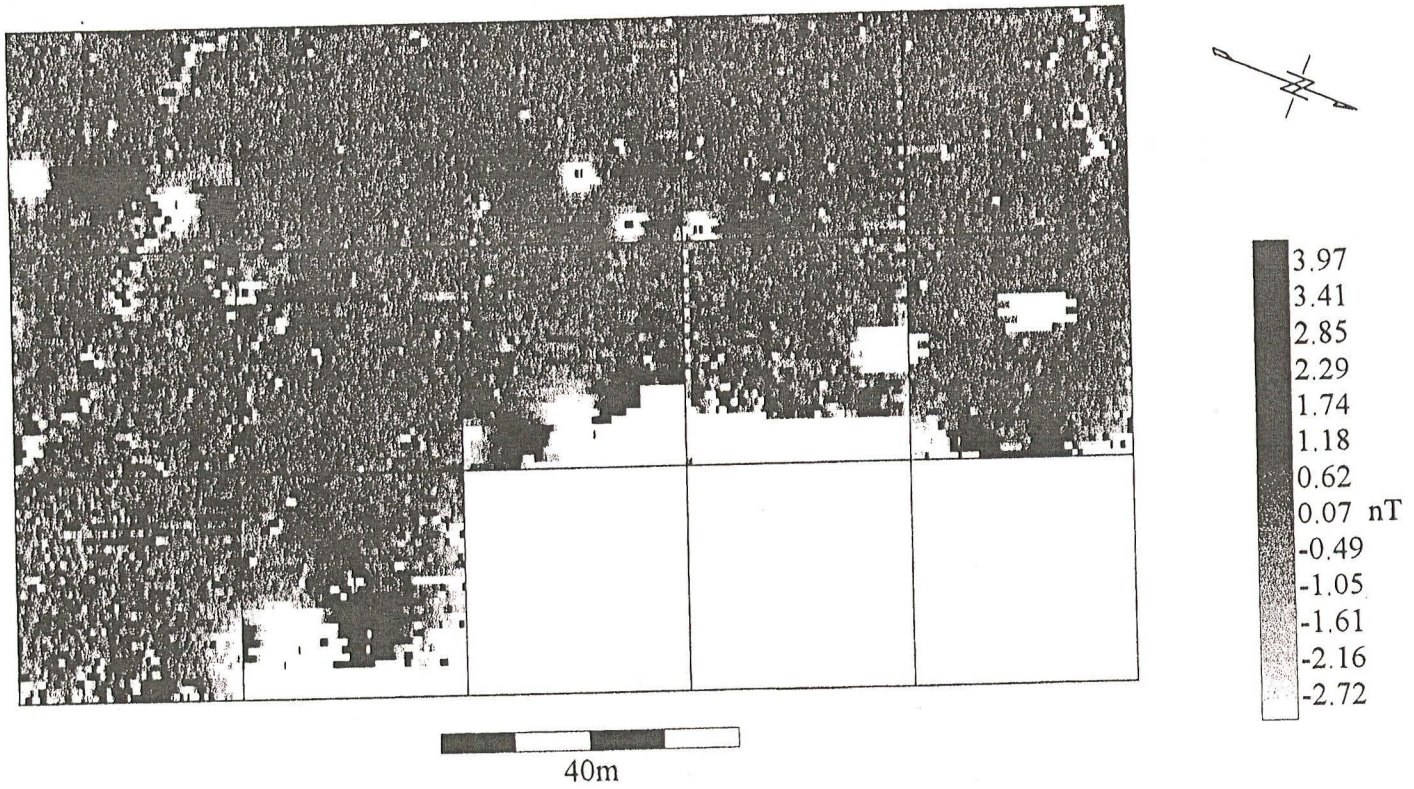
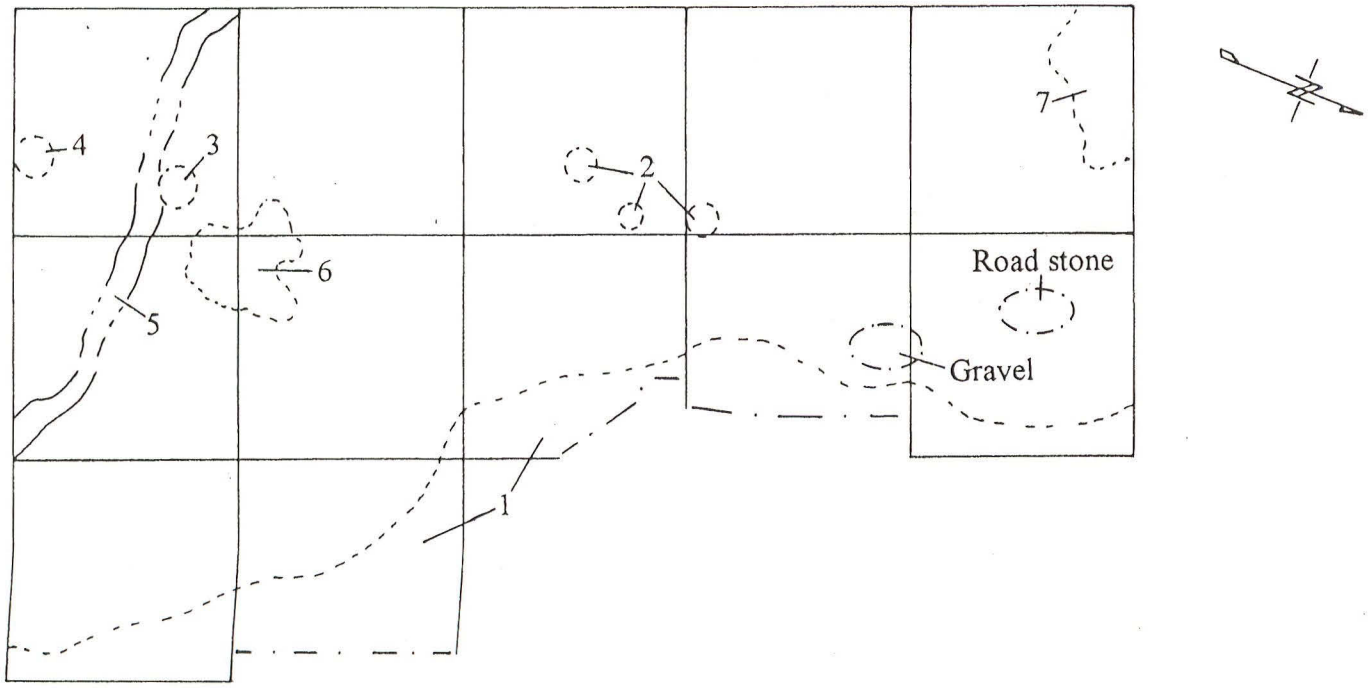


Fig.5 Interpretative plan of magnetic anomalies. Scale 1:1000.



Two concentrations of small amorphous positive and dipolar anomalies were detected. One (Fig.5 : 6) was close to the linear series of anomalies (5), the other close to the pond (Fig. 5 : 7). It is possible that these are simply concentrations of modern debris or ferrous litter. However, with evidence of metal working in the area it is possible that the anomalies are archaeologically significant.

Across the whole of the survey were a number of small discrete positive or dipolar (positive and negative) anomalies. It is likely that the majority of these are caused by pieces of ferrous debris in the topsoil (particularly the dipolar anomalies) but it is possible that some may represent small pits.

5.0 Conclusions

The site has produced very few anomalies of potential archaeological significance. The majority of the magnetic variation detected was the result of modern construction in the area. The linear anomalies and the two concentrations of anomalies may be archaeologically significant, and some of the small discrete positive anomalies scattered across the site may also be of some archaeological potential, although this cannot be completely assessed on the basis of geophysics alone.

Detailed survey by fluxgate magnetometer is only capable of detecting features that alter the magnetic susceptibility of soils or are magnetically different to the soils around them. It remains a possibility that there are archaeological features within the survey area that are not detectable.

6.0 Acknowledgements

Pre-Construct Geophysics would like to thank City of Lincoln Archaeological Unit for this commission; in particular to Mike Jarvis for his enthusiastic assistance.

7.0 Appendices

7.1 Bibliography

Clark, A J 1990 *'Seeing beneath the soil.'*

David, A 1995 *Research & Professional Services Guidelines No 1; 'Geophysical Survey in Archaeological Field Evaluation.'*

Everson, P. 1979 *'Pagan Saxon pottery from Cherry Willingham and Middle Carlton villages'* in *Lincolnshire History and Archaeology.*

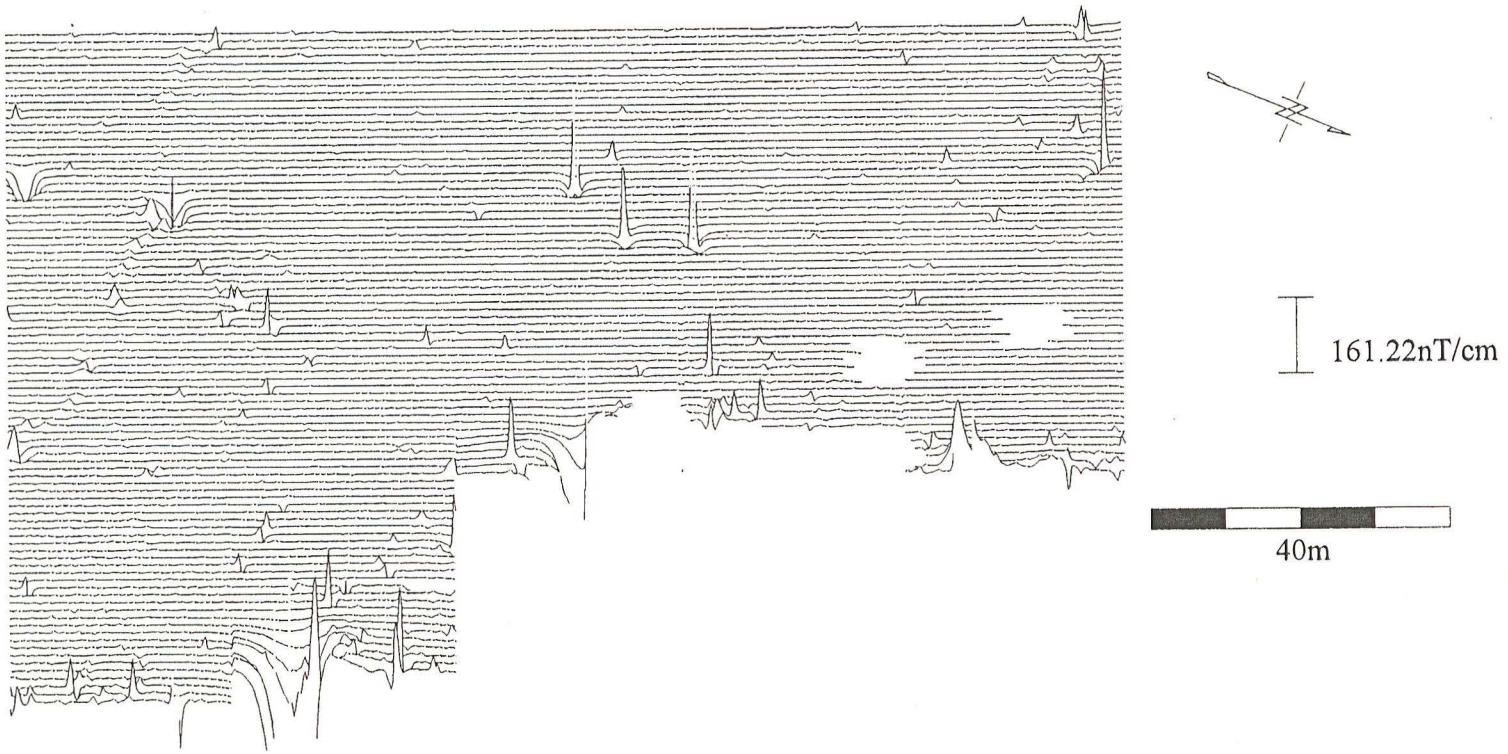
Field, F N — 1981 *'Cherry Willingham'* in *Lincolnshire History and Archaeology.*

Gaffney, C, Gater, J & Ovenden, S — 1991 *IFA Technical Paper No 9; 'The use of Geophysical techniques in archaeological evaluations.'*

7.2 Summary of survey parameters

Instrument:	Geoscan Research Fluxgate Gradiometer FM 36 with Sample Trigger ST1.
Resolution:	0.1 nT
Grid size:	30m x 30m
Sample interval:	0.25m
Traverse interval:	1m
Traverse method:	Zig-Zag

7.3 Trace plot of raw data.



PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 6: GEOPHYSICAL SURVEY REPORT – AREA B

FLUXGATE GRADIOMETER SURVEY
LAND AT THE HAWTHORNS
CHERRY WILLINGHAM
LINCOLNSHIRE

Report prepared for City of Lincoln Archaeology Unit
by James Snee BSc & David Bunn BSc.
November1999

Pre-Construct Geophysics
61 High Street
Newton on Trent
Lincoln
LN1 2JP
Tel. & Fax. 01777228129

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Illustrations

Fig.1 Location of survey area. Scale 1: 25000.

Fig.2 Location of survey grids. Scale 1:1250.

Fig.3 Smoothed greyscale image. Scale 1: 1000.

Fig.4 Clipped greyscale image. Scale 1: 1000.

Fig.5 Clipped and compressed greyscale image. Scale 1:1000.

Fig.6 Interpretive greyscale image. Scale 1:1000

Summary

- *A detailed fluxgate gradiometer survey took place to evaluate the archaeological potential of land off Ladymeers Road, Cherry Willingham, Lincolnshire.*

- *An area of strong magnetic variation was detected in the vicinity of a trial excavation trench which was known to contain archaeological features, comprising linear anomalies and possible metal working areas.*

- *The survey detected a pattern of natural reticulation in the bedrock possibly caused by glacial fractures.*

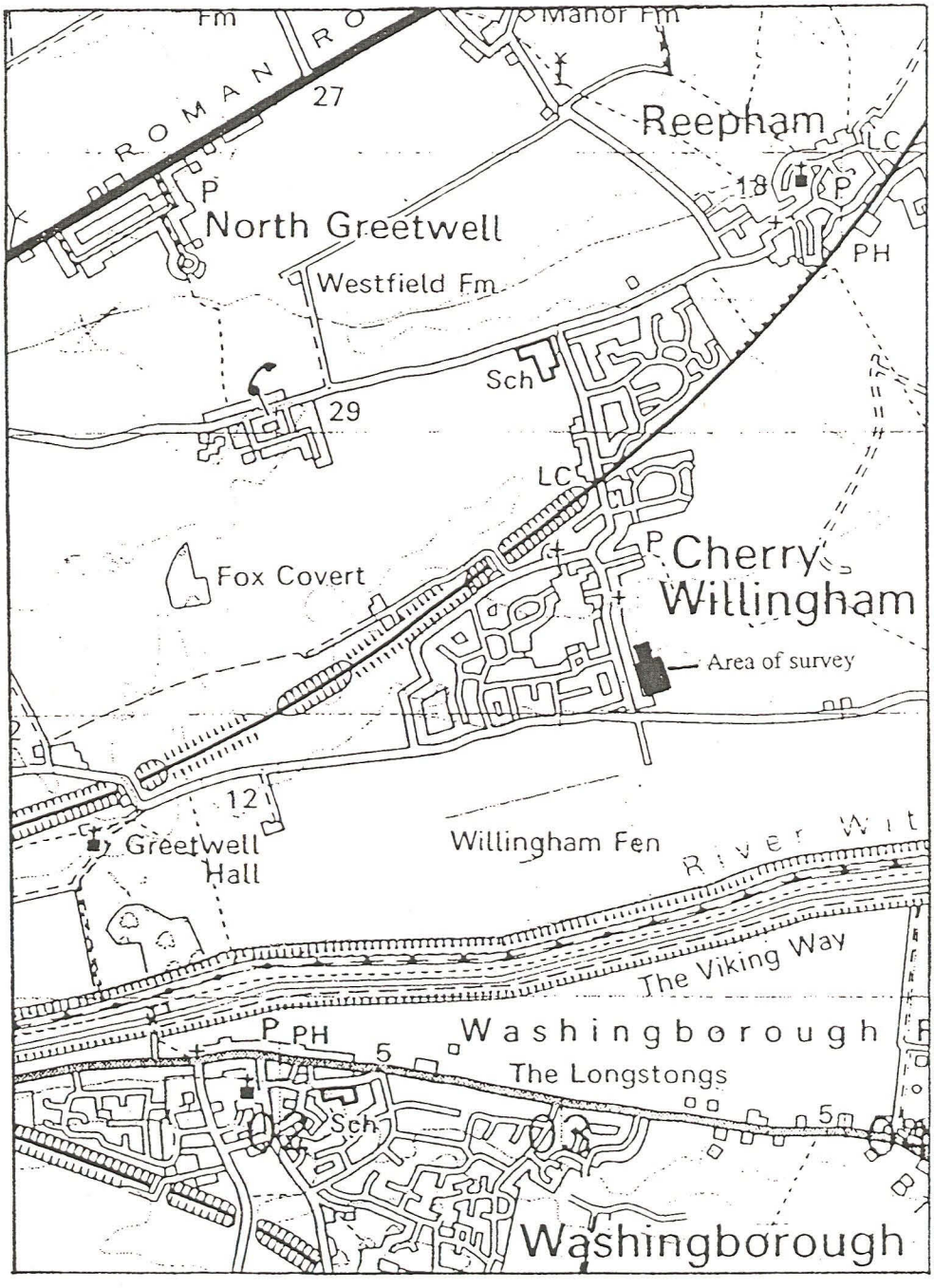


Fig.1 Location of survey area.
Scale 1:25,000.

Scale 1:1250

Fig.2 Location of survey grids.

1.0 Introduction

A detailed fluxgate gradiometer survey was commissioned by the City of Lincoln Archaeology Unit, on behalf of Lindsey Homes, to evaluate the archaeological potential of land off Ladymeers Road, Cherry Willingham, Lincolnshire. This work was undertaken prior to additional phases of construction work for 'The Hawthornes' residential development.

The survey was undertaken in accordance with the guidelines set out in the Lincolnshire County Council Archaeology Section publication *'Lincolnshire Archaeological Handbook; A Manual of Archaeological Practice'*, 1998, and in accordance with the guidelines set out in the English Heritage document *'Geophysical Survey in Archaeological Field Evaluation'*, 1995.

2.0 Location and description

Cherry Willingham is approximately 6km east of Lincoln. The site is located on the east side of the village, on land south of St Peter's Church, centred on NGR TF 03507225 . It comprises an irregular unit of approximately 1 hectare.

A significant amount of archaeological remains and artefacts have been discovered in this area of the village, mainly dating from Saxon to medieval times. To the north, a trial excavation recorded drainage gullies, a sunken building and evidence of metal working, all dating from the Saxon and early medieval periods (Field, 1981). Further evidence of metal working has been recorded during a watching brief to the east of the site (M. Jarvis pers. com.).

In September 1999, a geophysical survey was undertaken to evaluate land north-east of the current survey. The survey detected a linear anomaly that was later identified as a rubble filled ditch (J. Snee 1999 & M. Jarvis pers. com.). Further trial excavations in the area south-west of the linear feature exposed a concentration of archaeological features, including ditches and gullies.

The land is currently pasture of varying length, with recent residential development to the east, and property boundaries to the west and south. Land south-east of the survey comprises additional pasture, falling away towards Fiskerton Road.

The geology of the area consists of limestone brash, over which lies varying depths of clay and topsoil.

3.0 Methodology

Detailed area survey using a fluxgate gradiometer is a non-intrusive means of evaluating the archaeological potential of a site. The fluxgate gradiometer detects (often discrete) magnetic anomalies caused by areas of high or low magnetic susceptibility. These areas are caused by changes in the composition of the subsoil or the underlying geology. Archaeological features are the result of man-made changes to the composition of the soil and the introduction of intrusive materials such as brick, charcoal and pottery. These features will create detectable magnetic variability.

Activities which involve heating and burning will create magnetic anomalies, as will the presence of ferrous metal objects.

By examining the anomalies detected by a fluxgate gradiometer survey, geophysicists can often translate the data into archaeological interpretation.

The area survey was conducted using a *Geoscan Research* fluxgate gradiometer (model FM36) with an electronic sample trigger set to take 4 readings per metre (a sample interval of 0.25m). The zigzag traverse method of survey was used, with 1m wide traverses across 30m x 30m grids. The base line was established approximately parallel to the property boundaries 2m to the west. The survey grid was established on this base line with the southern edge 2m north of the southern property boundary. A peg was placed in the south-west corner to show the starting position of the survey.

The sensitivity of the machine was set to detect magnetic variation in the order of 0.1 nanoTesla.

The data from the survey was processed using *Geoplot* version 3.0. It was desloped (a means of compensating for sensor drift during the survey by subjecting the data to a mathematical bias sloping in the opposite direction of the bias created by sensor drift). The data was clipped to reduce the distorting effect of extremely high or low readings caused by ferrous metals on the site, and the results were plotted as a number of greyscale images.

The survey was carried out by David Bunn and the writer on the 1st November 1999. The weather was cold, windy with frequent showers. The area surveyed measured approximately 1.1 hectares.

4.0 Results

The survey revealed a wide range of magnetic variation, caused by a number of factors. The limestone bedrock produced a faint pattern of fine reticulation resulting from ice fractures. Along the north and west edges and in the south corner were areas of positive, negative and dipolar anomalies (Fig. 6:1). These were probably the result of construction debris from nearby modern houses.

Across the centre of the site was a broad strip of high magnetic variation, composed of a number of anomalies concentrated together. The strip was oriented approximately north-west to south-east, and at the north was cut by an evaluation trench (Fig, 6:2).

In the north west of the concentration of anomalies; was a group of six small linear positive anomalies (Fig. 6:3). These do not form a recognisable pattern but may be of archaeological significance, possibly ditches or gullies.

To the south is a pair of linear positive anomalies (Fig. 6:4) that may represent ditches.

In the south-east area of the busy zone is a group of three linear positive anomalies (Fig. 6:5). These may be ditches or gullies.

Fig. 3 Smoothed greyscale image.

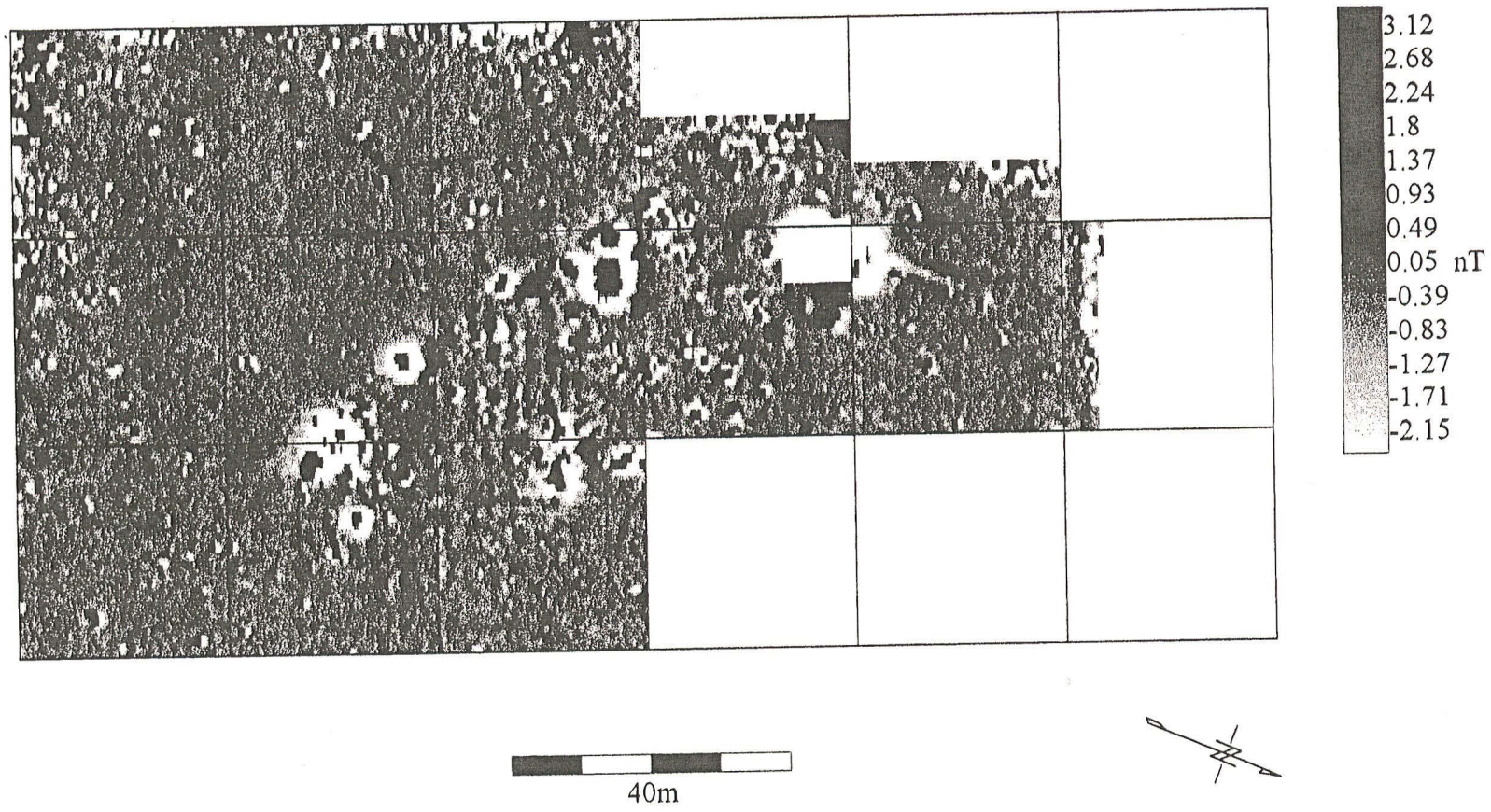


Fig. 4 Clipped greyscale image.

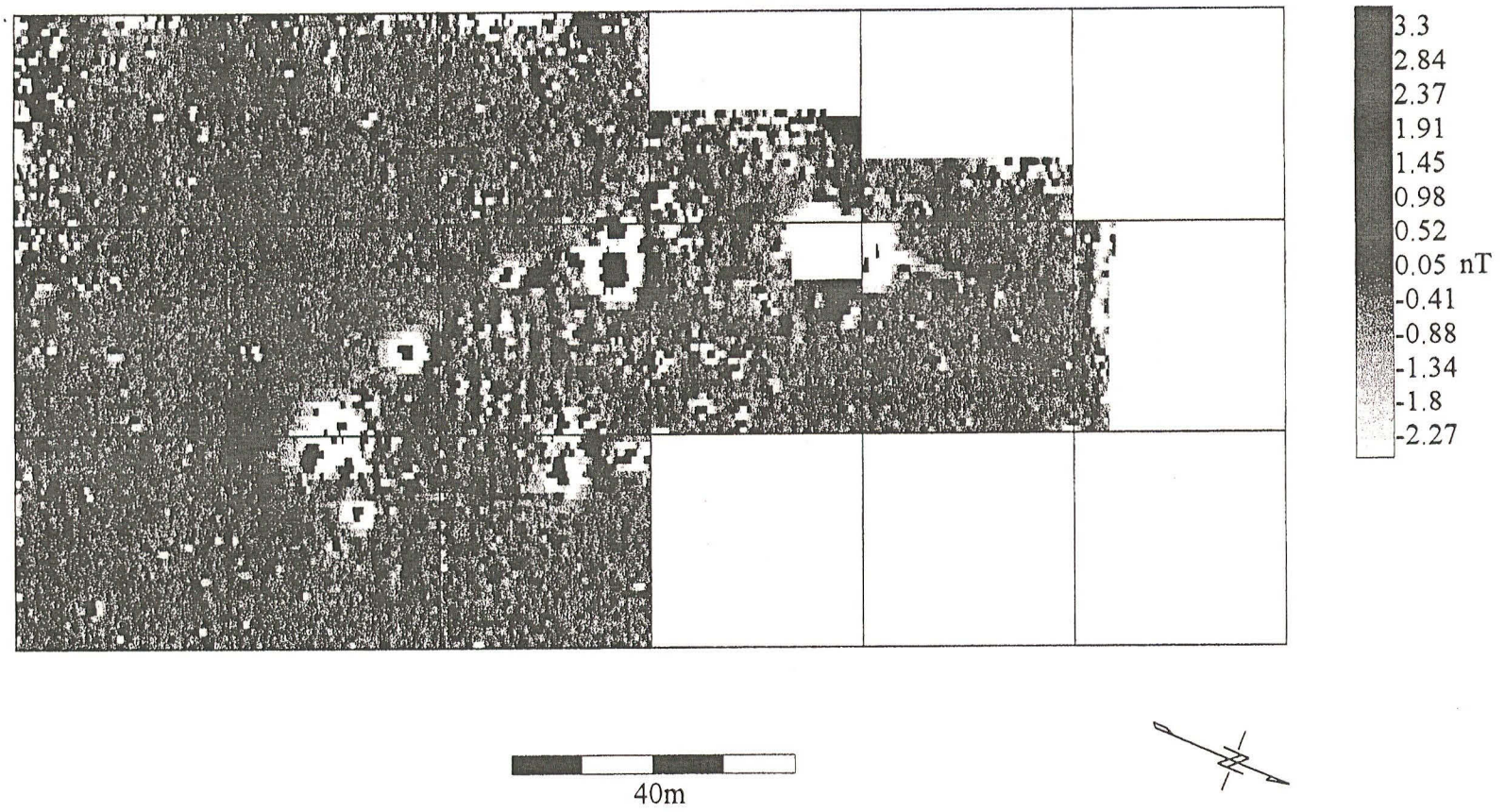
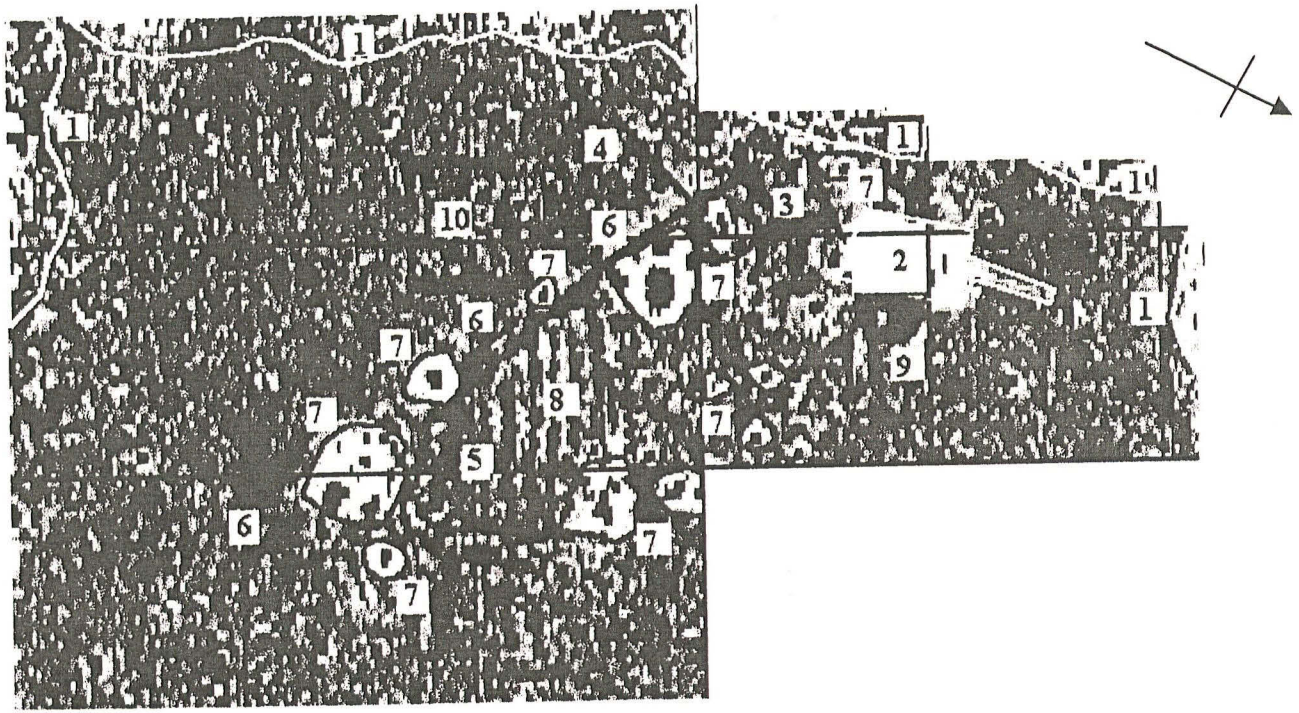


Fig. 5 Clipped and compressed greyscale image.

Fig.6 Interpretive greyscale image. Scale 1:1000



The south-west edge of the area of activity is defined by the presence of two long linear positive anomalies (Fig. 6:6). These converge and may represent two phases of a ditch boundary.

Throughout the area of activity there are areas of very strong positive, negative and dipolar variation (Fig. 6:7). These may represent areas of burning and rubble and/or ferrous litter, and could be modern. However, areas of metal working activity have been identified in the vicinity of the site and it is possible that these anomalies represent such areas.

In the centre of the area of activity were a series of six positive linear anomalies, oriented east-north-east to west-south-west (Fig. 6:8). These were roughly parallel and close together. They resemble ridge and furrow, but they are close together (2 to 3 metres) and are very localised. It is difficult to suggest an explanation of why ridge and furrow should be detectable in this area and nowhere else in the survey.

On the east edge of the evaluation trench, a large amorphous positive anomaly was detected (Fig.6:9). This corresponds closely to the position of a large cut feature identified in the evaluation and is probably the continuation of it.

To the south-west of the area of activity is a pair of positive anomalies that appear to form a sub-rectangular feature with two gaps (Fig.6:10). This could be an enclosure or possibly a structure.

Across the whole of the survey were a number of small discrete positive or dipolar (positive and negative) anomalies. It is likely that the majority of these are caused by pieces of ferrous debris in the topsoil (particularly the dipolar anomalies) but it is possible that some may represent small pits.

5.0 Conclusions

The survey detected an area of strong magnetic variation close to the trial excavation. This area seems to be defined by a linear feature on the south-west, and contains areas of linear features and areas that may be related to metal working. To the south-west of this is a possible enclosure or structure that may be of a different date. Outside these two areas only natural reticulation and occasional small discrete positive anomalies were detected.

Detailed survey by fluxgate magnetometer is only capable of detecting features that alter the magnetic susceptibility of soils or are magnetically different to the soils around them. It remains a possibility that there are archaeological features that have not been detected as a result of this survey.

6.0 Acknowledgements

Pre-Construct Geophysics would like to thank the City of Lincoln Archaeological Unit for this commission; in particular, Mike Jarvis.

7.0 Appendices

7.1 Bibliography

Clark, A J — 1990 *'Seeing beneath the soil.'*

David, A — 1995 *Research & Professional Services Guidelines No 1; 'Geophysical Survey in Archaeological Field Evaluation.'*

Everson, P. — 1979 *'Pagan Saxon pottery from Cherry Willingham and Middle Carlton villages'* in *Lincolnshire History and Archaeology.*

Field, F N — 1981 *'Cherry Willingham'* in *Lincolnshire History and Archaeology.*

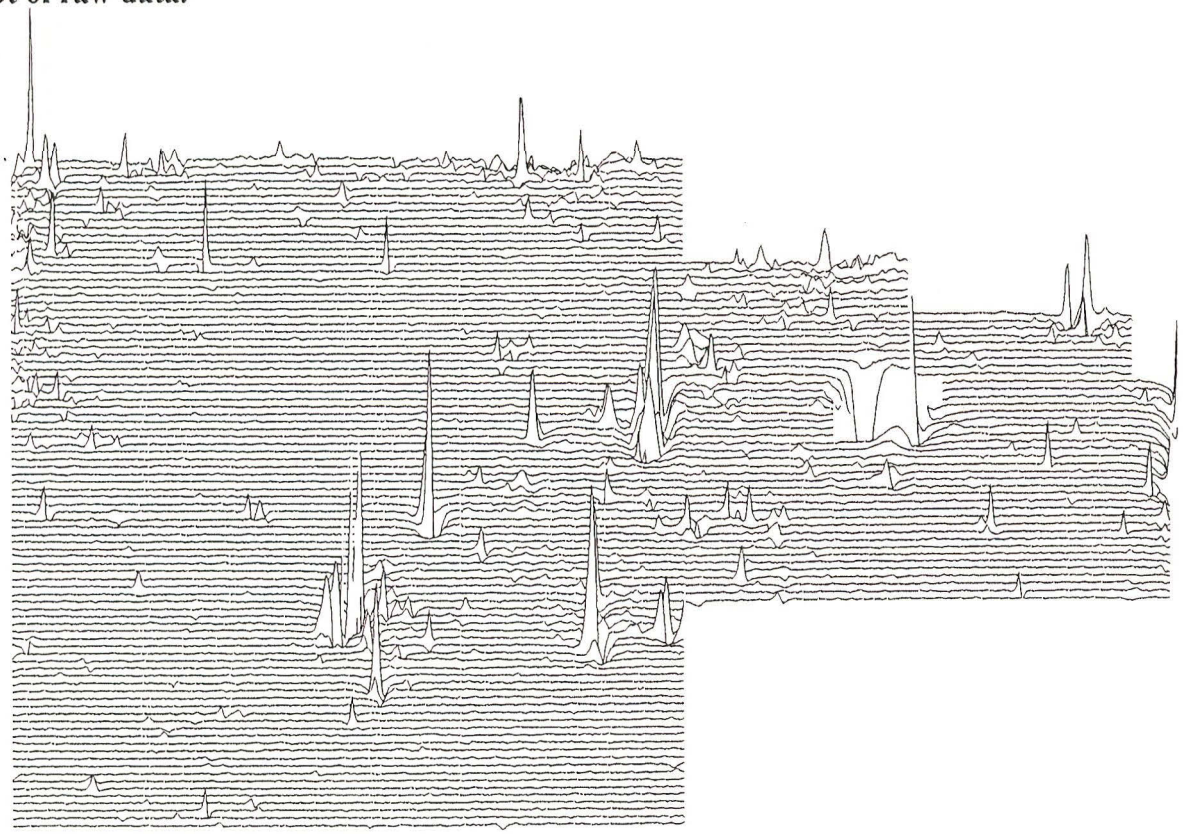
Gaffney, C, Gater, J & Ovenden, S — 1991 *IFA Technical Paper No 9; 'The use of Geophysical techniques in archaeological evaluations.'*

Snee, J. — 1999 *Fluxgate Gradiometer Survey; Land off Ladymeers Road, Cherry Willingham, Lincolnshire.*

7.2 Summary of survey parameters

Instrument:	Geoscan Research Fluxgate Gradiometer FM 36 with Sample Trigger ST1.
Resolution:	0.1 nT
Grid size:	30m x 30m
Sample interval:	0.25m
Traverse interval:	1m
Traverse method:	Zigzag

7.3 Trace plot of raw data.



88.96084nT/cm

40m

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 7: ROMAN POTTERY

Roman Pottery
By B J Precious

The Pottery
(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 as a measure)

A total of 23 sherds were recovered from the site, most of which were recovered from Trench 10 including eleven from context 26. Although the groups are very small there are sufficient diagnostic sherds to provide reasonable dating evidence for occupation from the later 1st to the 3rd centuries. The earliest material is represented by the only example of fineware from the site, a very abraded base of a South Gaulish, samian dish (probably a Dr15-17 or 18) of later 1st century date, from context 144. This vessel has been scratched in antiquity with illiterate lettering on the underside of the base and footring, a feature often noted on sites with military occupation.

Context 26, unstratified material from Trench 10, produced a small assemblage of a range of vessels of mixed dates ranging from the later 1st to the 3rd century. This group includes two sherds of shell-tempered ware in the form of an upright-rimmed jar. The form is similar to those of Saxon date, but the fabric is not familiar. The Roman wares include a greyware jar in native tradition, and an everted-rimmed bowl in a vesicular fabric, which might be decayed shell, both of later 1st to 2nd century date. However, the other greywares may date as late as the 3rd century. Other pottery of later 2nd to 3rd century date came from contexts 43 and 69.

In general the greywares from CWCA99 are more similar to those found on sites within the City of Lincoln than those from the watching brief (CWCL98), which featured a wider range of lighter grey and grey-brown fabrics often with dark grey cores.

Condition

The majority of the sherds are abraded, but in a stable condition.

Statement of Potential

The above group provides reasonable dating evidence for occupation of the site from the late 1st to the later 2nd to 3rd centuries, but is restricted by the small size of the group. The assemblage produced some unusual vessels which have been selected for drawing - 3 Roman (DWG 1-3) and one possible Roman or early Saxon vessel (DR 1). One of these is the base of a South Gaulish samian dish with scratched graffito on the underside of the base and inside the footring, from context 144 - a feature often noted on sites with military occupation.

Storage and Curation

The pottery should be retained for further study.

ROMAN POTTERY CATALOGUE

Context	*Fabric*	*Form*	*Dec*	*Dwg No.*	*Comments*	*Shs*
21	GREY	J			BS NECK	1
21	ZZZ				GREY ONLY;UNSTRAT	
21	ZDATE				2C+	
26	SHEL	JUP		DR3	RIM NECK;MISC;RO-SAX?;NO BRACH	1
26	SHEL	CLSD			BASE;SAME FAB AS JUP;NO BRACH	1
26	GREY	BD	B		BASE ABR	1
26	GREY				BS ABR	1
26	GREY	JNAT		DWG2	RIM SHLDR	1
26	GREY	JCUR			RIM	1
26	VESIC	BEV		DWG3	RIM NECK;PROB DECAYED SHEL	1
26	GREY				BS THICK ABR	1
26	GREY	J			BS	1
26	GREY				BS	1
26	GREY	BD			RIM FRAG VABR	1
26	ZZZ				SOME ABR;MIX SOME L1; 1 ?SAX	
26	ZDATE				L1-3C	
27	GREY	J			BASE FTM	1
27	SHEL	JBCUR		D?	RIM FRAG BLK;NO BRACH	1
27	ZZZ				2 SHS ONLY	
27	ZDATE				2C	
41	GREY	BTR			RIM PALE GREY	1
41	ZZZ				VABR;UNSTRAT	
41	ZDATE				2C+	
43	GREY	J			BASE PALE GRY CORE ABR	1
43	GREY	JBK			BS THIN ORANGE CORE	1
43	GREY				BS COARSE ABR DK GREY	1
43	OX	JBK			BS	1
43	GREY	DPR			RIM UPPER WALL	1
43	ZZZ				ALL ABR	
43	ZDATE				L2-3	
64	GREY	J			BS CORDON AT NECK DK GRY	1
64	ZZZ				ABR GREY ONLY	
64	ZDATE				2C+	
69	GREY	JBL			BS THICKER	1
69	ZZZ				GREY ONLY MIN ABR	
69	ZDATE				M2-3C	
90	GREY	J			BS	1
90	OX	JIR?	SLA	D?	RIM FRAG; DK GRY CORE; R OR ESAX	
90	ZZZ				2 SHS ONLY; 1 ?ESAX UNSTRAT	
90	ZDATE				RO-ESAX	
144	SAMSG	15/17-	GRAF	DWG1	BASE ;GRAFFITO	

		18				
144	ZZZ				VABR;SAM ONLY NB GRAF;MILITARY?	
144	ZDATE				L1	
						23

PHASE VII, CHURCH LANE, CHERRY WILLINGHAM, LINCS

ARCHAEOLOGICAL EVALUATION

APPENDIX 8: LITHICS

Lithics
By Claire D Angus

Site Report

The flint assemblage recovered from Cherry Willingham would appear to demonstrate activity in at least two periods of prehistory. The excavators suggest that the flint is all redeposited, and although some flint has been found in contexts which have pottery initially dated to the Iron Age, there is nothing to suggest that any of the flint belongs to this period.

The assemblage is dominated by products of blade technology suggesting an earlier period of activity perhaps in the Early Neolithic. There is a number of blades, blade-like flakes and blade fragments <21, 24, 26, 27, 34, 41>, and the core fragment <37> appears to have had blade removals. The two core rejuvenations <22 and 49> are also more likely to be found amongst a blade technology. A blade-like flake <24> has been used and also has traces of edge-gloss, which is consistent with activity in this period.

The tool most indicative of Early Neolithic activity is the laurel leaf <44>. It shows an identical breakage pattern to one found at the classic Early Neolithic site of Hurst Fen (Clark, 1960, fig. 14, F44), perhaps the result of an accident in tool preparation. A serrated blade fragment <16> could also belong in this period of earlier activity.

Later activity is indicated by a discoidal core with flake removals <45>, a thumbnail scraper <32> and perhaps two squat flakes <15 and 36> with broad plain platforms and the prominent bulbs of percussion produced by hard-hammer knapping technique. The thumbnail scraper is most likely to date from the Late Neolithic/Early Bronze Age, and the core and flakes could belong in this period too. The neat side-end scraper made on the thermal fragment <20> with shallow working angle and retouch over the ventral surface would also fit well in the Late Neolithic/Early Bronze Age.

There are 39 pieces of worked flint in total. Numbers from each trench are as follows:

Trench	Number of flints
1	1
2	1
3	1
4	1
7	4
8	4
9	5
10	18
11	4

Although the largest amount of flint came from Trench 10, two factors must be borne in mind: Trench 10, at 10mx10m, was of comparable size to Trench 9, but almost twice the area of other trenches; Trench 10 is up-slope of the other trenches, and recent ploughing may have been eroding artefacts out in this area and not further down-slope. In itself 18 is not a large number of flints to be recovered from an area of 100 square metres, especially as this represents more than one period of activity. Yet the

largest number of flints considered indicative of earlier, and of later, activities are both to be found within Trench 10, and it would seem reasonable to suggest some sort of activity foci perhaps adjacent to, rather than within, Trench 10. As the flint is considered to be redeposited this becomes hard to quantify.

With the exception of the discoidal core <45> made of opaque grey flint, the flint used is translucent varying in colour from honey through orange to deep brown. All of this flint would have been available in local drift deposits.

Jenny Brown
November 1999

Reference

Clark, J G D, 1960 Excavations at the Neolithic site at Hurst Fen, Mildenhall, Suffolk, *Proc Prehist Soc*, **26**, 202-45

Trench	Context	Find	Form Code	Material	Corticated	Heated	Used or Tool	Comment	Length (mm)	Breadth (mm)
1	01	15	FLAKE	TRANSLUCENT BROWN FLINT	CORTICATED			LARGE PLAIN PLATFORM + HARD HAMMER	20	21
2	04		NATURAL/ MECHANICAL DAMAGE	FLINT						
2	04	16	BLADE	TRANSLUCENT BROWN FLINT		BURNT	SERRATED BLADE FRAG			
3	40	17	TESTED PIECE?/MECHANICAL DAMAGE	TRANSLUCENT BROWN FLINT						
4	39	18	FLAKE	TRANSLUCENT BROWN FLINT					20	15
7	21	19	INDETERMINATE FLAKE/BLADE	TRANSLUCENT HONEY-COLOUR FLINT		BURNT	?USED			
7	21	20	THERMAL FLAKE	TRANSLUCENT BROWN FLINT			SCRAPER - HORSE SHOE			
7	21	21	BLADE	TRANSLUCENT ORANGE FLINT			MECHANICAL DAMAGE			
7	30	22	CORE REJUVENATION	TRANSLUCENT BROWN FLINT				HARD HAMMER	40	20
8	90	23	INDETERMINATE FLAKE/BLADE	TRANSLUCENT BROWN FLINT						
8	90	24	BLADE-LIKE FLAKE	TRANSLUCENT BROWN FLINT			USED	EDGE GLOSS	62	32
8	91	25	INDETERMINATE FLAKE/BLA	TRANSLUCENT HONEY-COLOUR FLINT						

			DE							
8	91	26	BLADE FRAGMENT	TRANSLUCENT ORANGE FLINT				ABRADED/RUBBED BUTT		
9	120		NATURAL	FLINT						
9	120	27	BLADE	TRANSLUCENT HONEY-COLOUR FLINT						
9	121		NATURAL/ MECHANICAL DAMAGED							
9	134	28	INDETERMINATE FLAKE/BLADE	TRANSLUCENT ORANGE FLINT					11	14
9	136	29	FLAKE	TRANSLUCENT HONEY-COLOUR FLINT			SIDE-END SCRAPER	RECENT DAMAGE		
9	142		NATURAL							
9	144	30	SPALL	TRANSLUCENT ORANGE FLINT		BURNT				
9	163	31	FLAKE	TRANSLUCENT ORANGE FLINT			MECHANICAL DAMAGE		44	27
10	26		NATURAL							
10	26		NATURAL							
10	26		NATURAL							
10	26		NATURAL							
10	26		NATURAL							
10	26		NATURAL							
10	26	32	FLAKE	TRANSLUCENT ORANGE FLINT			SIDE-END SCRAPER - THUMBNAIL			
10	26	33	BASHED LUMP/CHUNK	TRANSLUCENT BROWN FLINT			MECHANICAL DAMAGE?			
10	26	34	BLADE FRAGMENT	?	CORTICATED		MISCELLANEOUS RETOUCH			
10	26		NATURAL	OPAQUE CREAM FLINT						
10	26	35	CORE FRAGMENT	TRANSLUCENT BROWN FLINT						

10	27	36	FLAKE	TRANSLUCENT BROWN FLINT			USED?/MECHANICAL DAMAGE	LARGE PLAIN PLATFORM + HARD HAMMER + RECENT DAMAGE	30	37
10	27		CHUNK/MECHANICAL DAMAGE	TRANSLUCENT BROWN FLINT						
10	27		NATURAL							
10	27		NATURAL							
10	60	37	CORE FRAGMENT /CHUNK	TRANSLUCENT BROWN FLINT						
10	68		NATURAL							
10	68	38	FLAKE	TRANSLUCENT HONEY-COLOUR FLINT		BURNT				
10	68	39	FLAKE	TRANSLUCENT HONEY-COLOUR FLINT		BURNT		RECENT DAMAGE	23	27
10	68	40	INDETERMINATE FLAKE/BLADE	TRANSLUCENT HONEY-COLOUR FLINT						
10	68	41	BLADE	TRANSLUCENT ORANGE FLINT						
10	68	42	CHUNK	TRANSLUCENT ORANGE FLINT						
10	68	43	BLADE FRAGMENT	TRANSLUCENT HONEY-COLOUR FLINT	MECHANICAL DAMAGE					
10	68	44	BIFACIALLY WORKED PIECE	TRANSLUCENT ORANGE FLINT			LAUREL LEAF			
10	68	45	CORE	OPAQUE GREY FLINT			DISCOIDAL			
10	69		NATURAL							
10	69	46	INDETERMINATE FLAKE/BLADE	TRANSLUCENT HONEY-COLOUR FLINT						
10	69	47	FLAKE	TRANSLUCENT HONEY-COLOUR FLINT						
10	69	48	BLADE	TRANSLUCENT					26	16

				ORANGE FLINT						
10	71	49	CORE REJUVENATION	TRANSLUCENT HONEY-COLOUR FLINT					40	16
11	41	50	INDETERMINATE FLAKE/BLADE	TRANSLUCENT HONEY-COLOUR FLINT			?USED AS WEDGE			
11	43		NATURAL/ MECHANICAL DAMAGE							
11	43		NATURAL							
11	43	51	BLADE	?	CORTICATED					
11	43		NATURAL							
11	43	52	FLAKE	TRANSLUCENT ORANGE FLINT	CORTICATED		USED		18	20
11	43	53	FLAKE FRAGMENT							
11	43		NATURAL							