

# PRE-CONSTRUCT ARCHAEOLOGY L I N C O L N

## ARCHAEOLOGICAL EVALUATION REPORT LAND AT WRANGLE, BOSTON, LINCOLNSHIRE.

*pre-planning*

NGR: 542550 351100  
Site Code: LAWB 01  
LCCM Acc. No. 2001.442



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Report Prepared for  
TDB Developments  
by Mark Allen BSc AIFA

February 2002

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### Summary

- *A field evaluation was undertaken towards the east side of Wrangle for TDB Developments to assess the archaeological potential of a sub-rectangular unit of land in advance of a detailed application for residential development.*
- *A programme of trial excavation has demonstrated that the site has some archaeological potential, but that this appears to be restricted to a discrete zone in the north-west corner of the evaluated field.*
- *The archaeological remains are predominantly of late 10<sup>th</sup> to early 11<sup>th</sup> century date (Late Saxon), and comprise a series of ditches and a gully. Environmental and artefactual evidence suggest that domestic activity was taking place very close to the site, probably to the immediate west.*
- *A small but significant pottery assemblage provides the first indications that two late Saxon pottery production sites in Lincoln were producing their wares at the same time*
- *A possible Romano-British pit dating to the later 2<sup>nd</sup> to 3<sup>rd</sup> century AD may be an indication of an earlier phase of occupation.*
- *Several undated drainage ditches exposed across the site are considered to be of limited archaeological significance.*

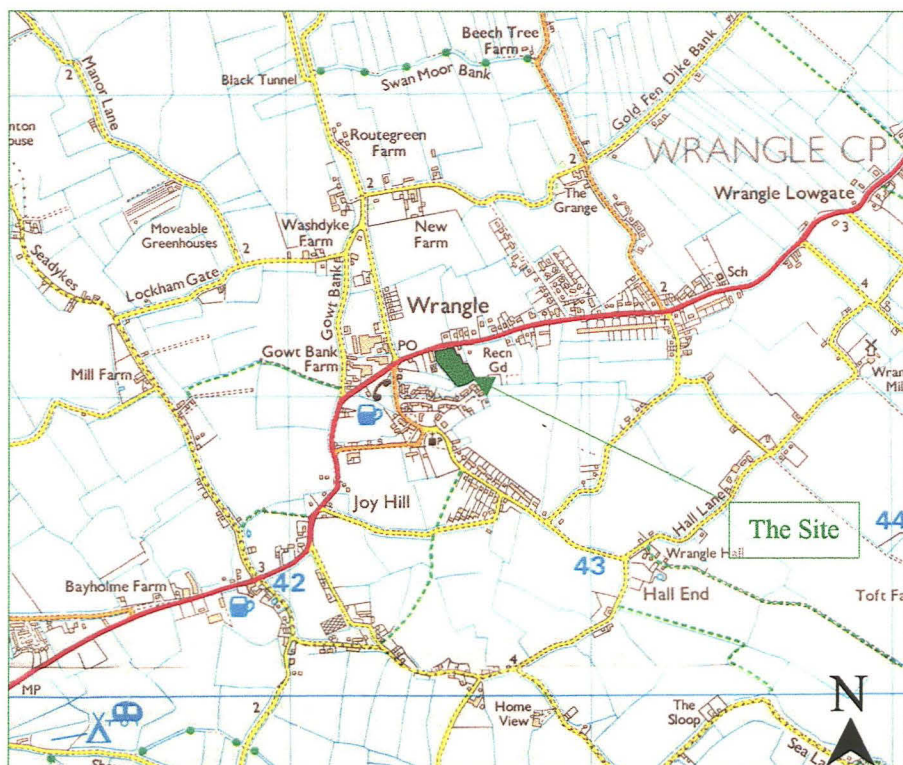


Figure 1: Site location at scale 1:25,000  
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## 1.0 Introduction

This report has been prepared for TDB Developments to advise an application for residential development on a unit of land at Wrangle in Lincolnshire. Its purpose is to advise both the commissioning body and Boston Borough Council of archaeological constraints which may exist, and which may warrant future protection and/or further investigation in advance of/during development of the site.

The land (hereafter 'the site') has been evaluated for its archaeological potential using an agreed strategy of trial excavation, the design of which was based largely on the findings of a preceding geophysical survey (Oxford Archaeotechnics 1998). The results of this investigation are presented below, and incorporate a series of specialist reports that have aided the interpretation of the deposits that were sampled. The report follows current national guidelines (IFA, 1994), the guidelines set out in the Lincolnshire County Council document *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice* (LCC, 1998), and a formal project specification prepared by Pre-Construct Archaeology.

## 2.0 Location and description

Wrangle is in the administrative district of Boston Borough, approximately 12.5km north-east of Boston. The proposed development is situated on the outskirts of the village; comprising a rectangular field that is predominantly flat (approximately 2.5m OD) (see fig. 1). This land is currently agricultural (ploughed), and is bounded to the north-west by the A52, a dwelling and hedge to the east, and drains to the south and west. The north-west corner of the site is defined by a dilapidated brick barn (see fig. 2).

The drift geology at Wrangle comprises Terrington Beds (younger salt marsh and tidal creek deposits, mainly silt and clay). The underlying geology is Jurassic Kimmeridge Clay of the Ancholme Group (BGS 1996).

Central National Grid Reference: 542550 351100.

## 3.0 Planning background

The evaluation was undertaken to establish the archaeological potential of the site in advance of a detailed application for residential development.

## 4.0 Archaeological and historical background

Evidence for exploitation of the area during much of the prehistoric era is poorly understood, but appears to have been punctuated by a series of marine transgressions/regressions.

During the Bronze Age, the landscape was predominantly wet, but included a series of

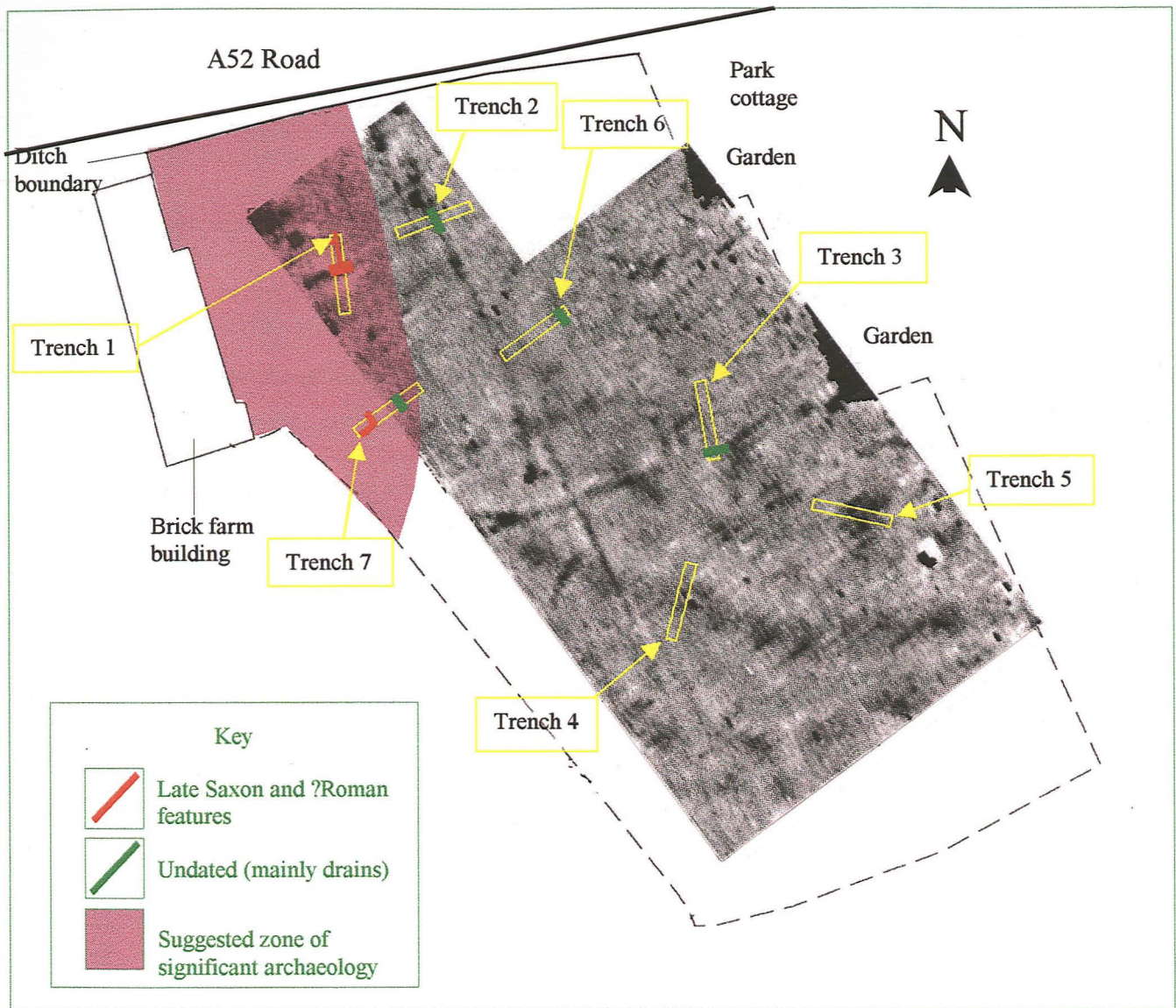


Figure 2: Location of trenches superimposed over geophysical survey results, at scale 1:1000. Known remains are highlighted in red, undated features in green (greyscale image taken from Johnson 1998).

small dry 'islands' surrounded by marshy ground (Lane 1993): an ideal environment for hunting and gathering, even though settlement sites of this date are notably absent. Isolated finds of this period have been found within the parish; three Early Bronze Age ovoid stone hammers of quartzite pebble are listed in the County Sites and Monuments Record. One of these objects is recorded as being found 450m to the south-west of the site (Whitwell 1967); the others are: 1.7km to the north-east, and 1.8km to the north-west respectively. A re-examination of the records could well pay dividends, as the descriptions for these, fairly unique, artefacts look remarkably similar. A single Bronze Age flint was found during a watching brief at Church End (Archaeological Project Services 2000), 400m to the south-west of the application site.

A marine incursion in the mid/late Bronze Age may have led to abandonment of the area (Lane 1993), prior to the emergence of an industrial-scale salt processing industry by the later Iron Age. Sites containing briquetage and Iron Age pottery (fieldwalking evidence) are known to the north of the proposed development area, approximately 2km away. These industries appear to have been positioned on the edges of earlier roddons, or saltwater creeks inland from the former shore.

The salt industry appears to have grown considerably by the Romano-British period within the same area of Wrangle parish, with numerous surface scatters of briquetage and pottery being recorded. The pottery includes colour-coated wares and samian, suggesting the presence of settlement alongside industrial areas. It is interesting to note that a number of suggested settlement sites of Romano-British date are found seaward of the salt-making areas, along a projected north-east – south-west axis that incorporates the area that is the subject of this report. A Roman kiln associated with pottery is recorded to the north-west of the site at 'Kings Hill' (see below).

From the end of the Roman period until Late Saxon times, there is no evidence for activity in the area. This perhaps suggests that worsening ground conditions caused abandonment of settlements and industrial centres from the 5<sup>th</sup> to the 8<sup>th</sup> centuries AD, although scant traces of Middle Saxon structures were recently exposed on land off Church Road in Boston (Palmer-Brown 1996).

There appears to have been a concerted effort in the Late Saxon period to reclaim land: for example, the Gold Fen Dike Bank, approximately 800m north-east (landward) of the site. The current site would appear to lie on the seaward side of this work, although its course to the west of a building known as The Grange is not entirely clear. The Dyke, and a series of medieval dyings (field systems), is now a scheduled monument (SAM 22741).

A former settlement within the parish, probably at Greenfield Farm at Wolmersty (2.75km to the north-east of the site) appears to have also originated in the pre-Conquest era, based on pottery recovered from the present ground surface. Other artefacts include a lava quern and 70 animal bones (Lane 1993). A ditch (aerial photographic evidence) once surrounded this sub-circular low mound of glacial clay. Although its relationship with the Gold Fen Dike Bank is unclear, the Late Saxon settlement is located seawards of the bank, an indication that the settlement was positioned on a small dry island surrounded by the wet of the fens, perhaps linked to dry land to the north-west via the flood bank. The site appears to have remained

inhabited through the medieval period, and was still recognisable in 1529 (Thompson 1856), although by the 19<sup>th</sup> century the settlement had been abandoned.

Wrangle is listed in the Domesday Survey of 1086 as *Werangle*, from the Old English *wrengel*, meaning 'a crooked place', that may perhaps also refer to a winding stream (Cameron 1998). The survey names two principal landowners within this jurisdiction of Drayton: Count Alan owned 10 taxable carucates of land, with land for 5 ploughs, whilst Guy of Craon took 2 carucates of land from Aethelstan, with land for 1 plough. It was recorded this land was waste on account of flooding by the sea.

Although the Domesday Survey makes no record of salt making at Wrangle, this industry was almost certainly undertaken in the pre-Conquest period. Late Saxon pottery has been found on the ground surface of the Toftland, a north-east – south-west strip of artificially raised land, formed through the dumping of silts from the salt-making process, approximately 500m to the south-east of the site.

It has been suggested that the A52 that runs east – west to the north of the site is a medieval road that is shown on the 14<sup>th</sup> century Gough map, extending from Boston and Wainfleet (Platts 1985).

At the north end of the parish is an extensive mound called 'Kings Hill', now a scheduled monument (SAM 22742). This is the remnant of a Motte and Bailey Castle that served as the centre of a local manor. The estate was established in the 11<sup>th</sup> and 12<sup>th</sup> centuries, and during the 13<sup>th</sup> and 14<sup>th</sup> centuries belonged to the earls of Lincoln. By the early 17<sup>th</sup> century the estate passed to James I (hence the name 'Kings Hill').

A fluxgate gradiometer survey of the current site was undertaken by Oxford Archaeotechnics (Oxford Archaeotechnics 1998). This survey identified significant levels of magnetic variability over a single hectare unit, much of which was believed to be of archaeological significance (see greyscale, fig. 2).

## 5.0 Methodology

The archaeological works described in this document and a preceding gradiometer survey report, were requested by the Boston Community Archaeologist as a basis for evaluating the archaeological potential of the site. The primary purpose of these investigations is to gather and collate information for planning purposes: to assess the archaeological potential of a site and provide a basis for mitigating against the effects of development, if appropriate. The approach is consistent with the guidelines set out in *Archaeology and Planning: Planning Policy Guidance Note 16* (1990).

Initially, five evaluation trenches were investigated. Following a period of consultation, two additional trenches (6 and 7) were excavated in an attempt to define the limits of the archaeological activity. Trench locations are indicated on fig. 2, superimposed over the gradiometer survey greyscale image.

The evaluation was undertaken by a team of four experienced field archaeologists (including the author, who was project supervisor) over a period of five days, between



17<sup>th</sup> and 21<sup>st</sup> December 2001.

For each trench, a JCB fitted with a smooth ditching blade was used to remove all topsoil, subsoil and underlying non-archaeological deposits in spits no greater than 20cm in depth. The process was repeated until the first archaeologically significant or natural horizon was exposed. All further excavation was by hand.

Where archaeological remains were exposed, features and deposits were sample excavated manually, and context information was recorded on Context Record Sheets. Archaeological deposits were drawn to scale, in plan and in section, and Ordnance Datum heights were entered on each class of drawing. Archaeological contexts were photographed, and some prints are reproduced within this report (see Appendix 1).

Archaeological finds were recovered during the investigation (eg domestic pottery sherds and animal bone). They were washed and processed at the offices of PCA, prior to submission for detailed specialist appraisal. Two soil samples were also recovered from dated archaeological contexts (Appendix 5).

## 6.0 Results

The topsoil that was common to the site consisted of a 0.3 – 0.4m deep mid grey clay silt with very few small stones. The topsoil sealed a brown clayey silt layer measuring 0.1 – 0.25m deep, identified as an alluvial horizon. This overlay light blue/grey silty clay, a natural clay deposit with an accumulation of manganese across its surface. Beneath this was brown/red silty clay, part of the Terrington Beds drift geology.

### 6.1 Trench 1 (See fig. 3)

*Trench 1 was positioned approximately 14m east of a brick farm building at the west corner of the site. Its primary purpose was to investigate a known area of burning identified by hand auguring, and a linear anomaly found during the previous geophysical survey. The trench was 12m long, orientated NNW - SSE.*

*A Late Saxon recut ditch and gully appeared to be associated with domestic activity, based on pottery and environmental evidence. A pit that was cut by the gully contained Romano-British pottery and fish bones, with some suggestion of salt production from fired clay within its fill.*

Machine excavation of the topsoil and subsoil horizons exposed a linear ditch, orientated north-east – south-west, [114]. This feature was recut at least once, [102]. A single sherd of pottery from the earliest fill (116) suggests that the ditch was initially excavated in the 10<sup>th</sup> century. Within the recut ditch was a deposit of black clay silt (110), from which a sherd of late 10<sup>th</sup> to early 11<sup>th</sup> century pottery was recovered. A soil sample from this context identified a significant amount of fired earth, with a high concentration of small shell fragments: almost exclusively mussel shell. Within the sample were more than 300 charred cereal grains. Barley was the most abundant, with a few grains of wheat, and a number of grass seeds as well. Several fragments of straw

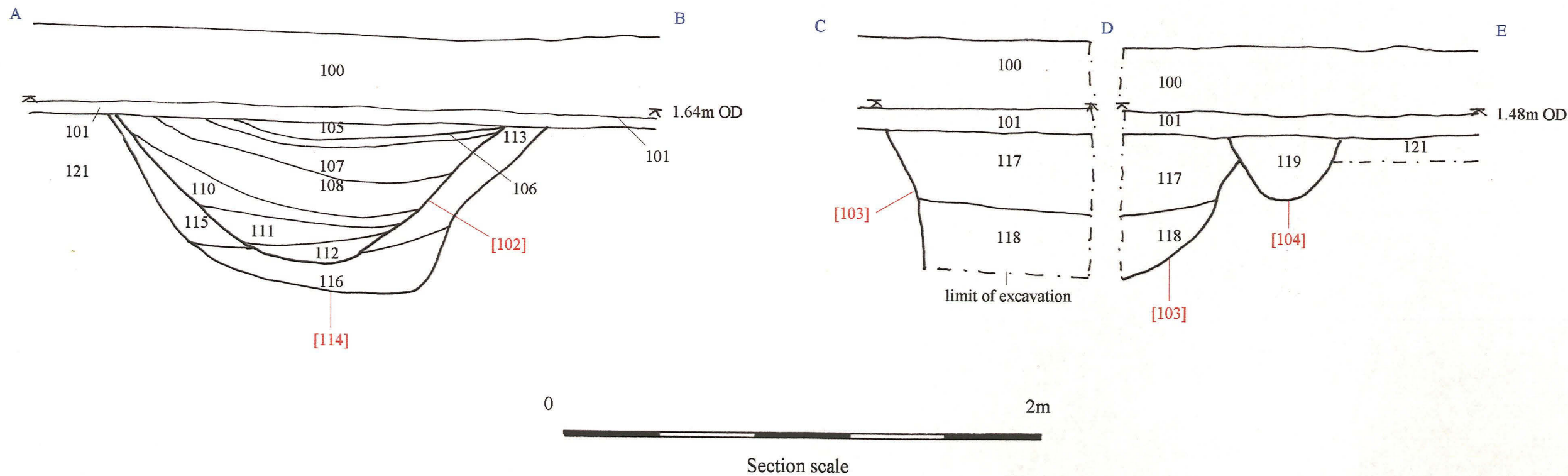
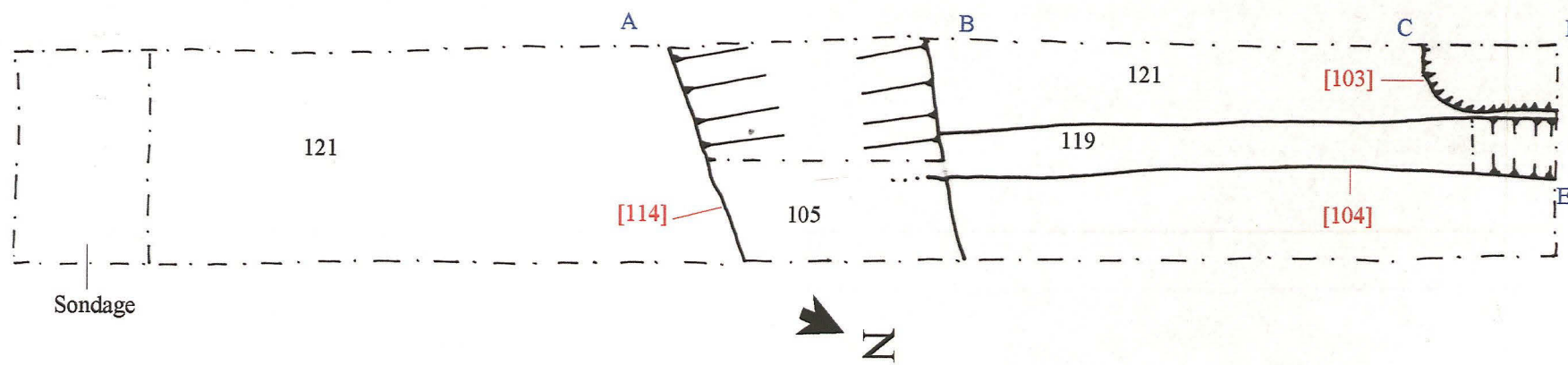


Figure 3: Trench 1 plan and sections. Plan is at scale 1:50, and sections at scale 1:20.

and charred legume (possibly pea or bean) are also recorded. This assemblage is fairly typical domestic waste. The lack of weed seeds suggests that the cereal remains were probably charred during food preparation or cooking, rather than at some stage during crop processing. Above (110) was (108), a deposit of mid brown/grey clay silt. Five sherds of pottery of late 10<sup>th</sup> to early 11<sup>th</sup> century date were recovered from this context, along with three fragments of burnt clay. Sealing (108) was (107), grey clay, with moderate flecks of charcoal. (106) sealed (107), and this comprised grey/brown clay silt with no finds. The uppermost fill of [102], (105), comprised grey silt clay that incorporated seven fragments of burnt clay (possibly burnt turf) and eleven sherds of late 10<sup>th</sup> to early 11<sup>th</sup> century pottery.

Running into the ditch was a gully, [104], orientated north-west – south-east. It is likely that the two features were contemporary. Gully [104] had a rounded profile, and was filled with (119), brown clay silt with moderate flecks of charcoal and twenty one sherds of Late Saxon pottery (late 10<sup>th</sup> to early 11<sup>th</sup> century). Thirteen fragments of fired clay are similar in form and fabric to pieces from (105) and (108) in ditch [102].

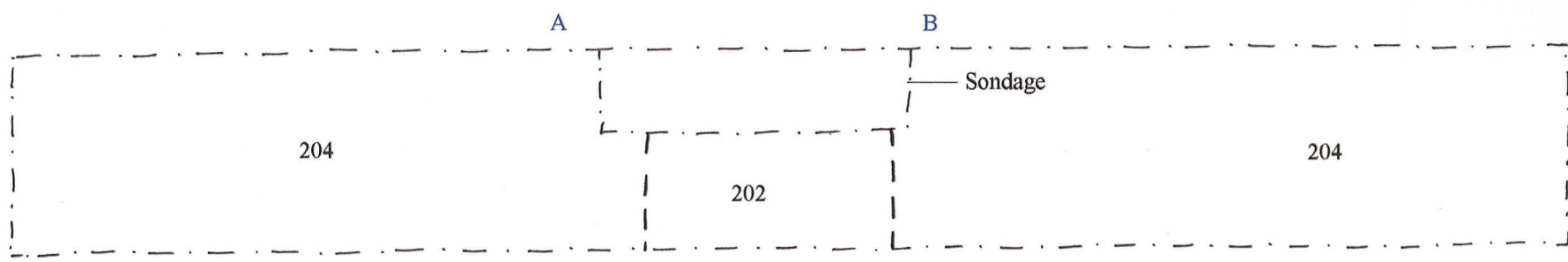
The gully had cut into a steep sided pit at the north-west corner of the trench, [103]. This was not fully excavated due to access difficulties and a high winter water table. The lower fill, (118), comprised dark grey clay silt with frequent charcoal flecking. A sample from this material incorporated more than forty-two small fish vertebrae from at least three taxa. The secondary fill, (117), contained three sherds of Romano-British pottery (later 2<sup>nd</sup> – 3<sup>rd</sup> century) and two pieces of fired clay. The fired clay seems to have been formed in temperatures in the region of 800 – 900°C in an oxidising atmosphere. The colour of one fragment indicates the presence of brine. Vince (See Appendix 4) suggests these are either late medieval/post-medieval brick fragments, or earlier in date and relate to salt extraction. The latter is more plausible, due to the presence of Roman pottery within the feature.

## 6.2 Trench 2 (See fig. 4)

*Trench 2 was positioned towards the north-west edge of the field, approximately 10m to the south of the A52, to examine a small area of burning and a suspected drain identified by the geophysical survey. It was 12m long and ran roughly east – west.*

*A ditch towards the centre of the trench was identified as the anomaly from the geophysical survey. There was no sign of the discrete area of burning.*

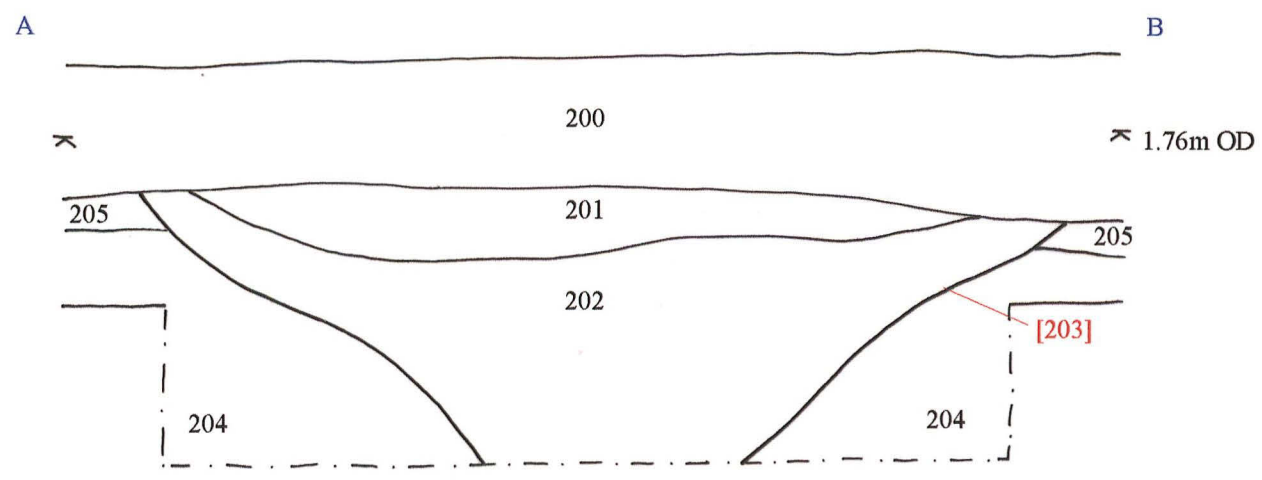
Removal of the topsoil and subsoil exposed a north – south orientated ditch, [203], cutting natural clay, (204). The ditch, which was only partially excavated due to a high water table, was 2.4m wide. It was predominantly filled with water-lain orange/brown fine silt (202), that was sealed by a deposit of grey/brown silty clay with frequent charcoal flecks (201). The ditch cut through the alluvial subsoil, suggesting perhaps a post-Saxon date. One fragment of brick was recovered from this context.



0 5m



Plan scale



0 2m



Section scale

Figure 4: Trench 2 plan and section. Plan at scale 1:50, and section at scale 1:20.

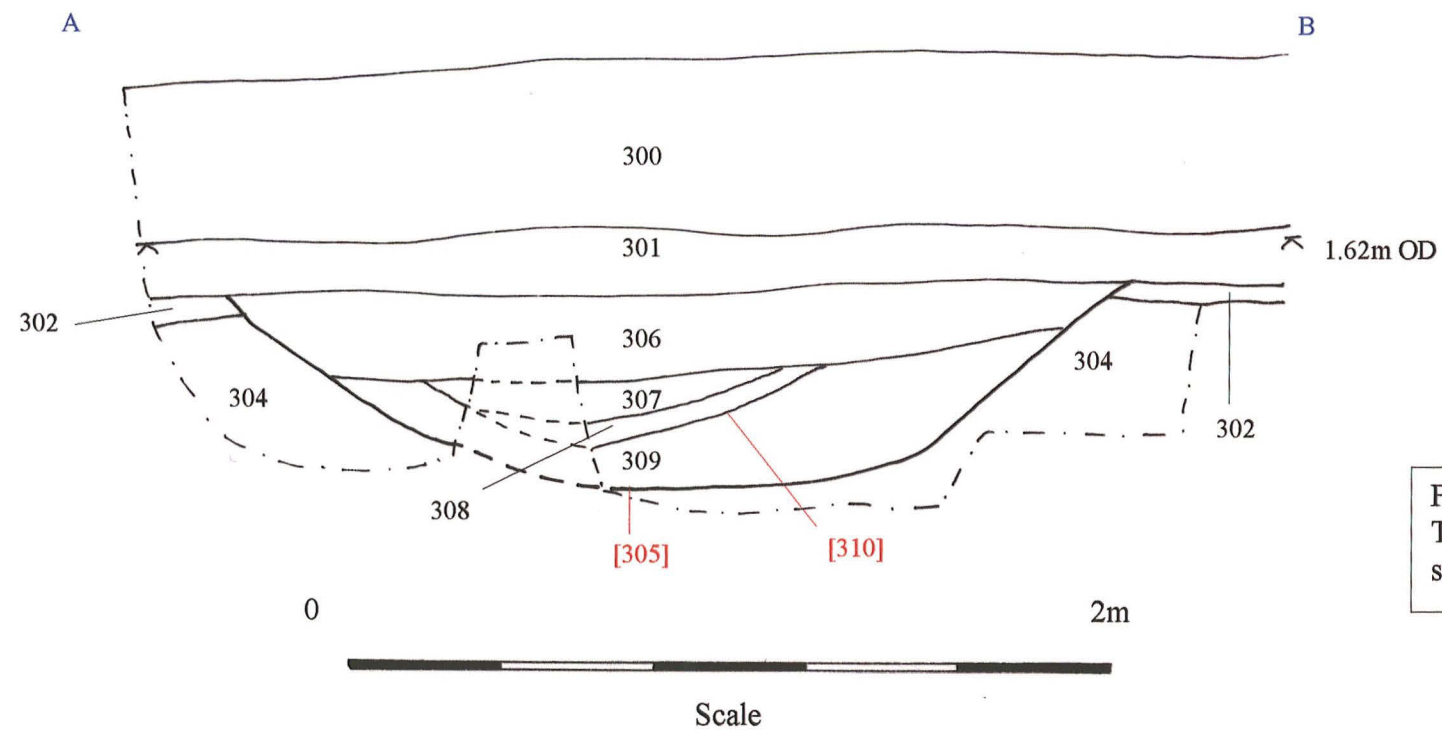
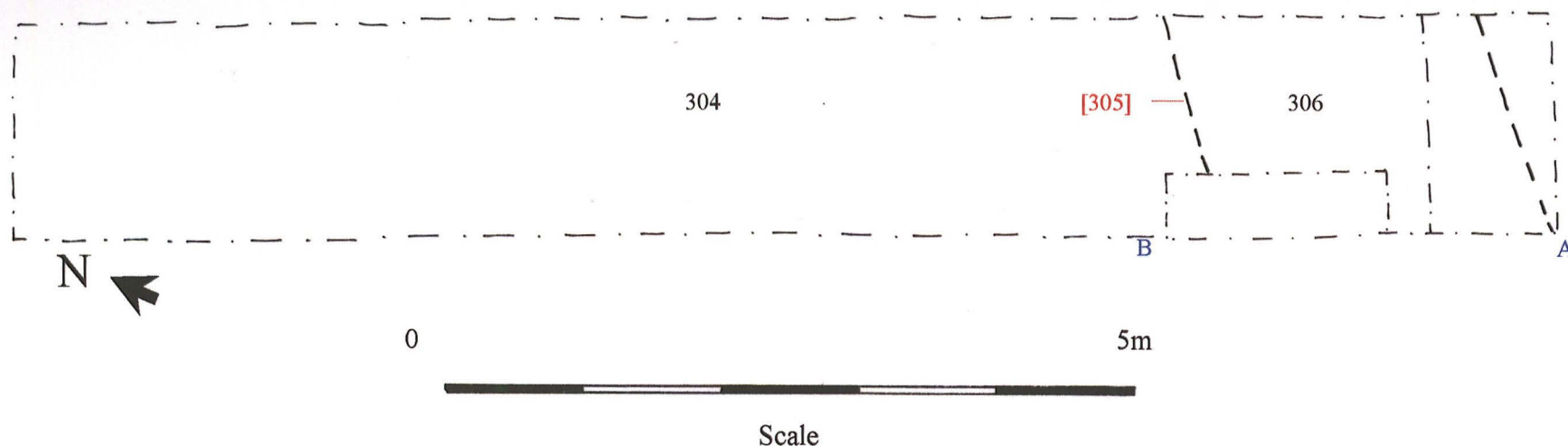


Figure 5: Plan and section of Trench 3. Plan is at scale 1:50, section at scale 1:20.

### 6.3 Trench 3 (See fig. 5)

*This trench was positioned towards the centre of the site to traverse two linear anomalies and a possible area of burning, all identified by the geophysical survey. The trench was 12m long, running NNW – SSE.*

*A single undated ditch running NE – SW was exposed at the south end of the trench. This equated to one of the two linear anomalies.*

Removal of the topsoil and subsoil layers exposed a wide, shallow, NE – SW orientated ditch at the south end of the trench, [305]. This feature had shallow sides and a curving base, measuring c. 2.6m wide and approximately 0.5m deep. Following initial silting of this feature, (309), it was recut [310]. The recut contained light blue/grey clay (308), sealed by brown clay silt (307). The hollow left by ditch [305] and its later recut [310] was sealed by brown/grey clay silt, (306).

### 6.2 Trench 4 (See fig. 6 below)

*Trench 4 was positioned towards the south edge of the geophysical survey, to examine a broad curvilinear anomaly; possibly a channel/drain. The trench was 12m long and was orientated north-north-east – south-south-west.*

*No archaeological deposits of significance were exposed in this area.*

Machining of the trench to a depth exceeding 1m did not expose the geophysical anomaly. This situation is difficult to explain, although it is possible that the anomaly occurred within the topsoil horizon only. This situation has been observed on other sites.

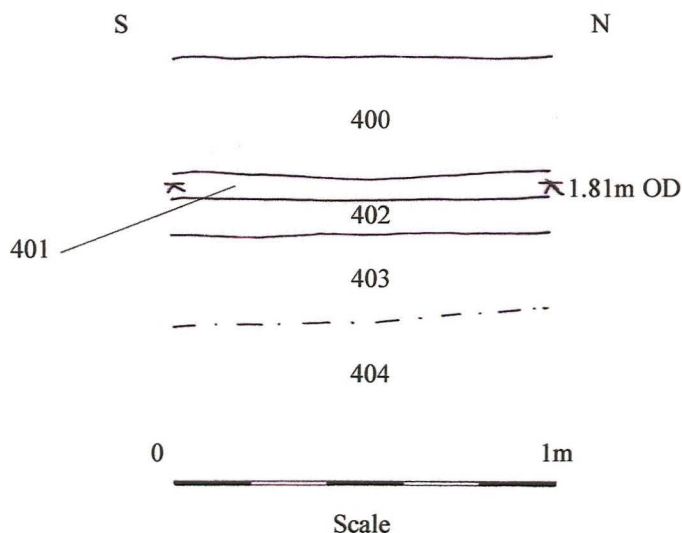


Figure 6: East-facing representative section in trench 4. At scale 1:20.

## 6.2 Trench 5 (See fig. 7 below)

*Trench 5 was positioned towards the east edge of the field to traverse an area of possible burning, identified during the preceding geophysical survey. It was 12m long and ran roughly east – west.*

*An archaeological feature corresponding with the anomaly was not exposed.*

The trench was mechanically excavated into natural geological strata. The geophysical anomaly is thought to represent an area of concentrated manganese, as this material occurred in some frequency at the interface of the alluvial subsoil and Terrington Bed geology.

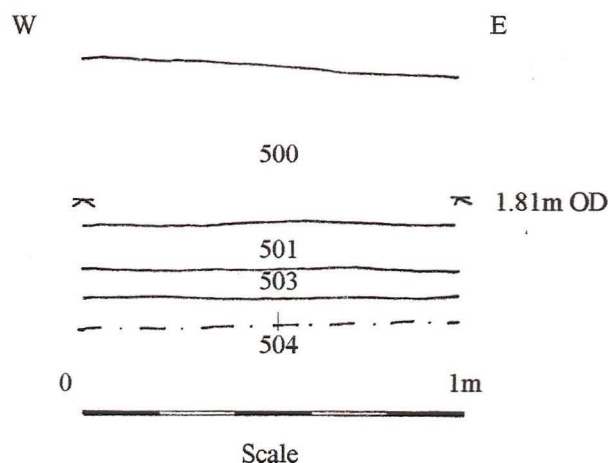


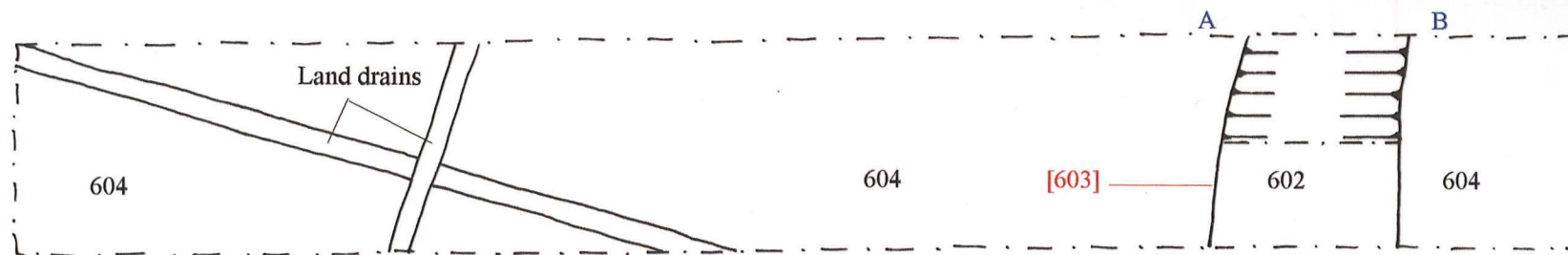
Figure 7: North-facing representative section in trench 5 at scale 1:20.

## 6.2 Trench 6 (See fig. 8)

*Trench 6 was investigated as part of a contingency to examine an area within the north half of the site and to ascertain the extent of archaeological remains exposed in Trench 1 to the west. The trench, which was 10m long, was orientated north-east – south-west, 20m to the south-east of Trench 1.*

*A single undated drainage ditch was exposed towards the north-east end of the trench. This was not identified by the geophysical survey.*

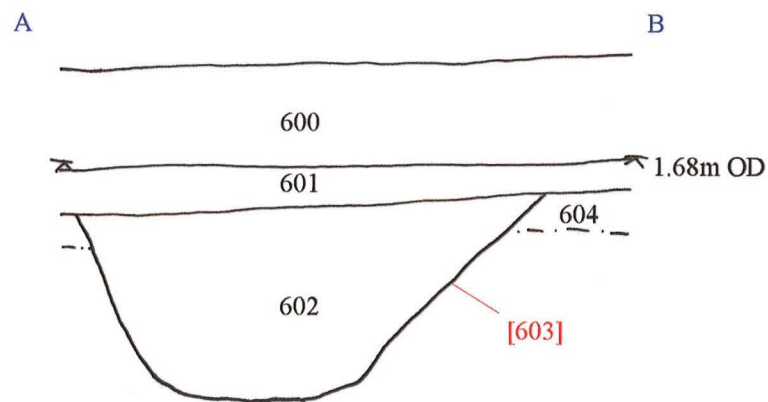
Removal of the topsoil and subsoil exposed a north – south orientated ditch, [603], which was cut through natural silty clay, (604). The ditch was 1.2m wide with a steep west edge and more gradual east edge. It was filled with water-deposited orange/brown clay silt (602), that was beneath the subsoil (201).



0 5m



Plan scale



0 2m



Section scale

Figure 8: Trench 6 plan and section. Plan is at scale 1:50, and section at scale 1:20.



## 6.2 Trench 7 (See fig. 9)

*The trench was positioned to the south of Trench 1 in an attempt to determine the full extent of remains that were exposed in that area. The trench was 10m long, and was orientated north-east – south-west.*

*A shallow Late Saxon curvilinear ditch and an undated ditch were identified.*

Removal of the topsoil and subsoil exposed two features, both of which were cut by a modern land drain. At the west end of the trench a curvilinear ditch ([704]) extended south-west to north-east before turning a right angle to the north-west. The flat-based ditch was filled with light grey/brown silt (703). A single sherd of pottery from this material suggests a Late Saxon (10<sup>th</sup> – 11<sup>th</sup> century) date.

Approximately 3m east of the above was an undated shallow north-west – south-east orientated ditch [706]. This was difficult to clarify in plan during machining and was partly truncated by the JCB (making it appear narrower in plan in fig. 9). The ditch was 1.1m wide and 0.22m deep, where it cut through a subsoil deposit (701). Its fill comprised grey/brown silt (705), that was devoid of finds. Although undated, it is suggested that this feature was significantly later than [704], as it was clearly cut through the subsoil deposit that sealed the top of [704].

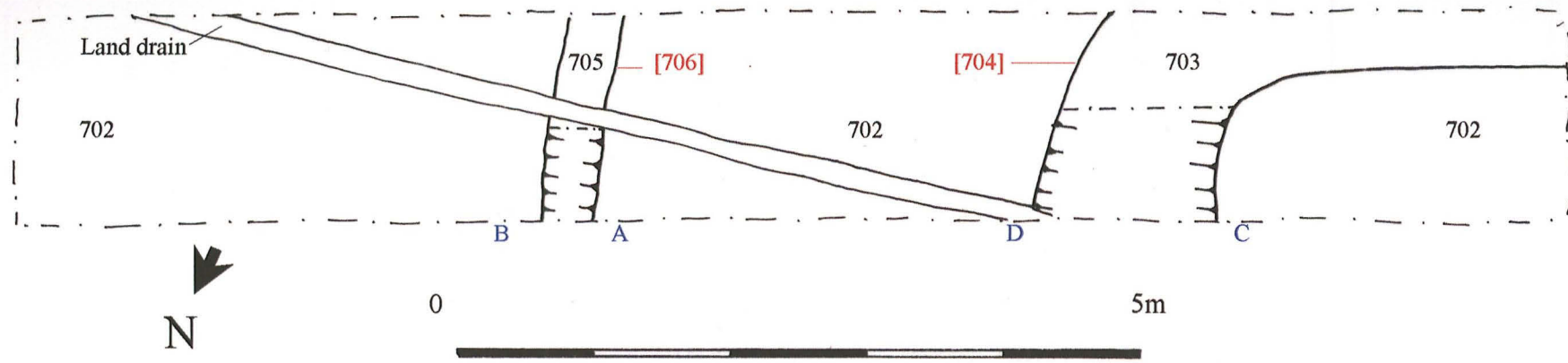
## 7.0 Summary and conclusions

The majority of the geophysical anomalies were identified and investigated, with two notable exceptions towards the south end of the site (Trenches 4 and 5).

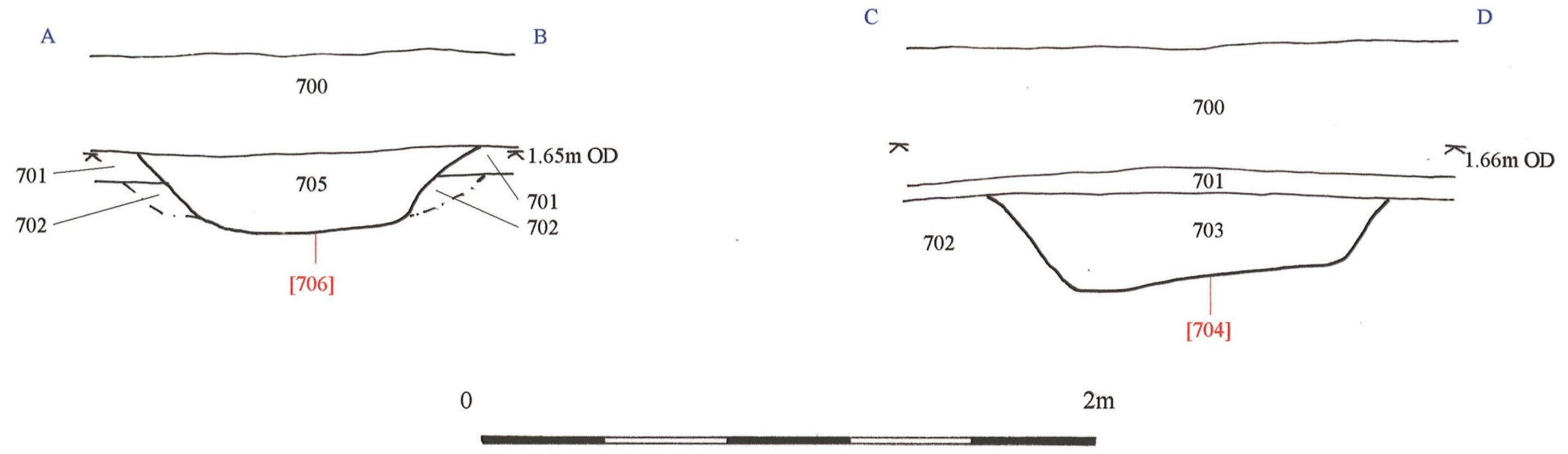
The evaluation exposed a moderate concentration of archaeological cut features towards the north-west corner of the site (Trenches 1 and 7). These comprised ditches and a gully, the fills of which suggest domestic activity towards the north-west corner of the proposed development. These features date predominantly to the Later Saxon period.

The features that were investigated in the north-west part of the site have provided firm evidence for domestic settlement in the late 10<sup>th</sup> to early 11<sup>th</sup> century, and environmental samples recovered from dated contexts have identified residues associated with the consummation of marine shellfish that were presumably procured from the shoreline or perhaps from tidal creeks. Barley and wheat was also recovered from soil samples, although there is no evidence that this was grown locally.

The remains exposed by this evaluation suggest the proposed development may impact on the eastern periphery of a Late Saxon settlement focus. Pottery associated with this settlement includes a small but significant assemblage of late 10<sup>th</sup> to early 11<sup>th</sup> century wares. For the most part, these are associated with two production sites in Lincoln: the Sessions House site to the east of Lindum Road and the Art College site on the west side of Lindum Road. The assemblage is important in that it provides the first clear



Plan scale



Section scale

Figure 9: Trench 7 plan and sections. Plan is at scale 1:50, and sections at scale 1:20.

evidence that the two industries were contemporary operations. Other pottery from this site includes Saxo-Norman Lincoln Sandy Ware, a type not widely traded outside of Lincoln itself. Fired clay was also recovered, although an interpretation of this material is slightly problematic. It could be associated with salt making, although this is rather speculative.

A pit close to the north-west limits of the site produced three sherds of Romano-British pottery. No other features of this date were exposed, and an environmental sample from the pit suggests domestic discard (the sample contained abundant fish vertebrae, barley and wheat cereal grains, and fired clay that appears to have contained brine at the time of firing, suggesting that salt processing may have been taking place, although the evidence for this is slight).

The site appears to be criss-crossed by low densities of mainly undated drainage ditches. Each of these ditches was cut through the alluvial subsoil (that sealed the Late Saxon period and possible Romano-British features), suggesting they are post-11<sup>th</sup> century. A fragment of brick recovered from the top of one of these ditches dates (unhelpfully) between c. 1350 and 1800 AD.

## 8.0 Effectiveness of methodology

The methodology used in this evaluation was appropriate and effective. The results show a clear zone of domestic activity towards the north-west corner of the site that may be impacted by the proposed scheme. However, the majority of the site appears to incorporate widely-spaced and less significant drainage ditches that are considered to be of relatively limited archaeological value, and further investigation of these features is unlikely to be productive.

## 9.0 Acknowledgments

Pre-Construct Archaeology (Lincoln) would like to thank the commissioning body, TDB Developments.

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## 11.0 Site archive

The site archive (documentary and physical) for this project is in preparation and will be deposited at Lincoln City and Council Museum within six months. Access to the archive may be granted by quoting the global accession number 2001.442.

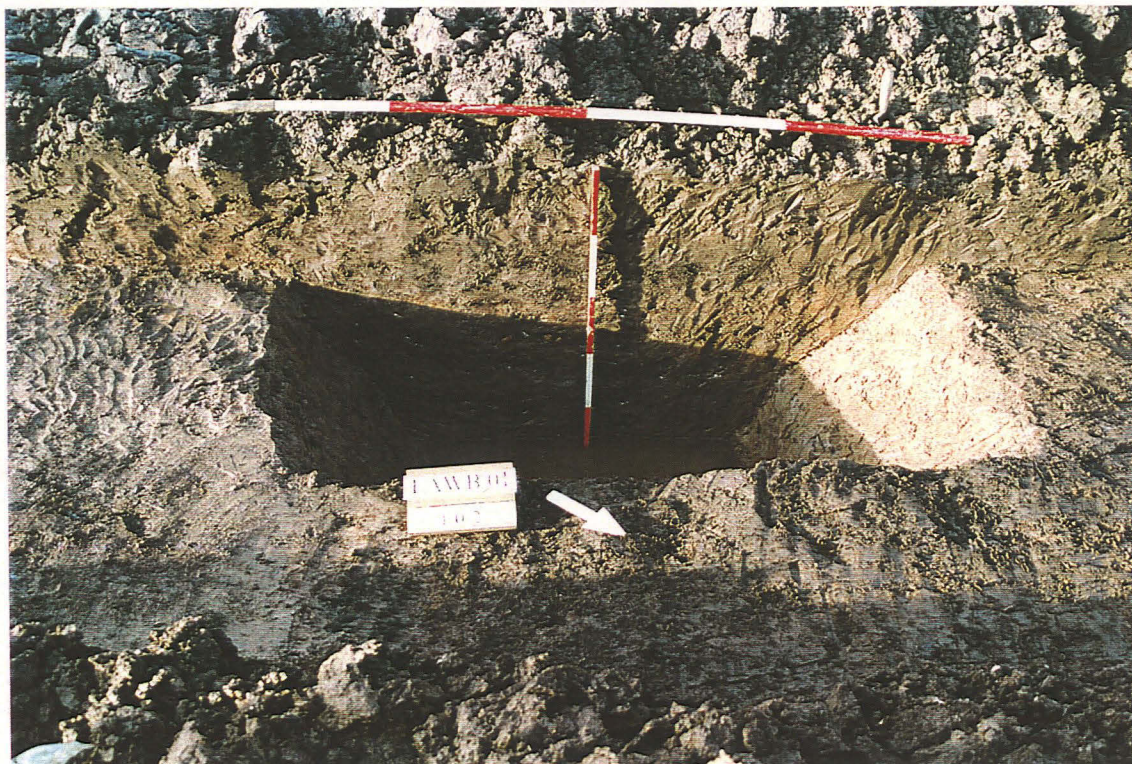
Appendix 1: Colour plates



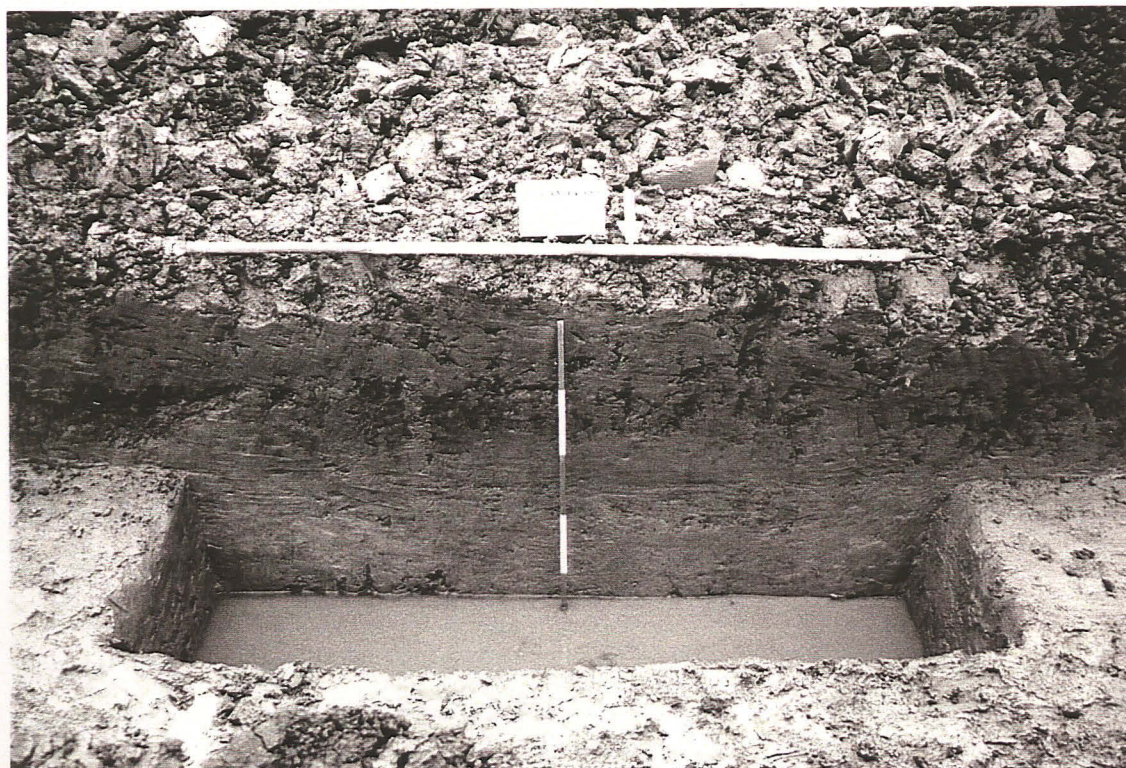
Pl. 1 Site location shot taken from A52 to west of site, looking east. Trench 1 is to the right of the picture.



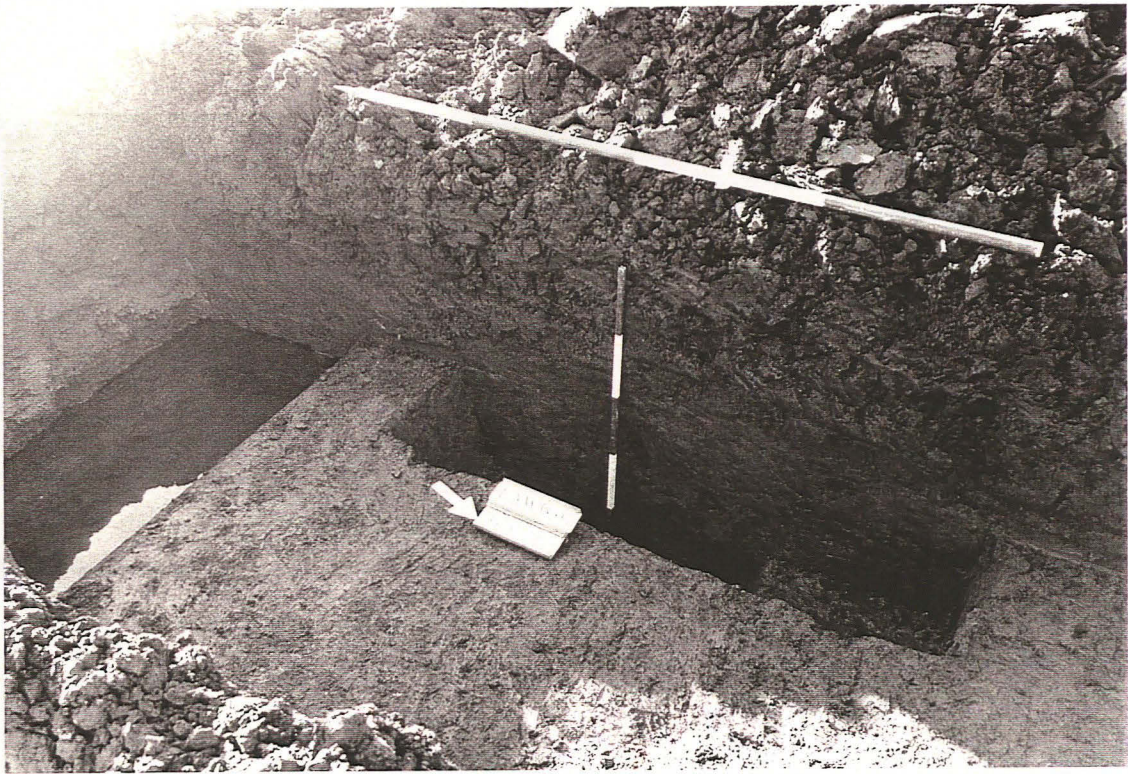
Pl. 2 Pit [103] and gully [104] after excavation, looking west.



Pl. 3 North-east facing section through ditch [102] after excavation, looking southwest.



Pl. 4 South-facing section through ditch [203], looking north.



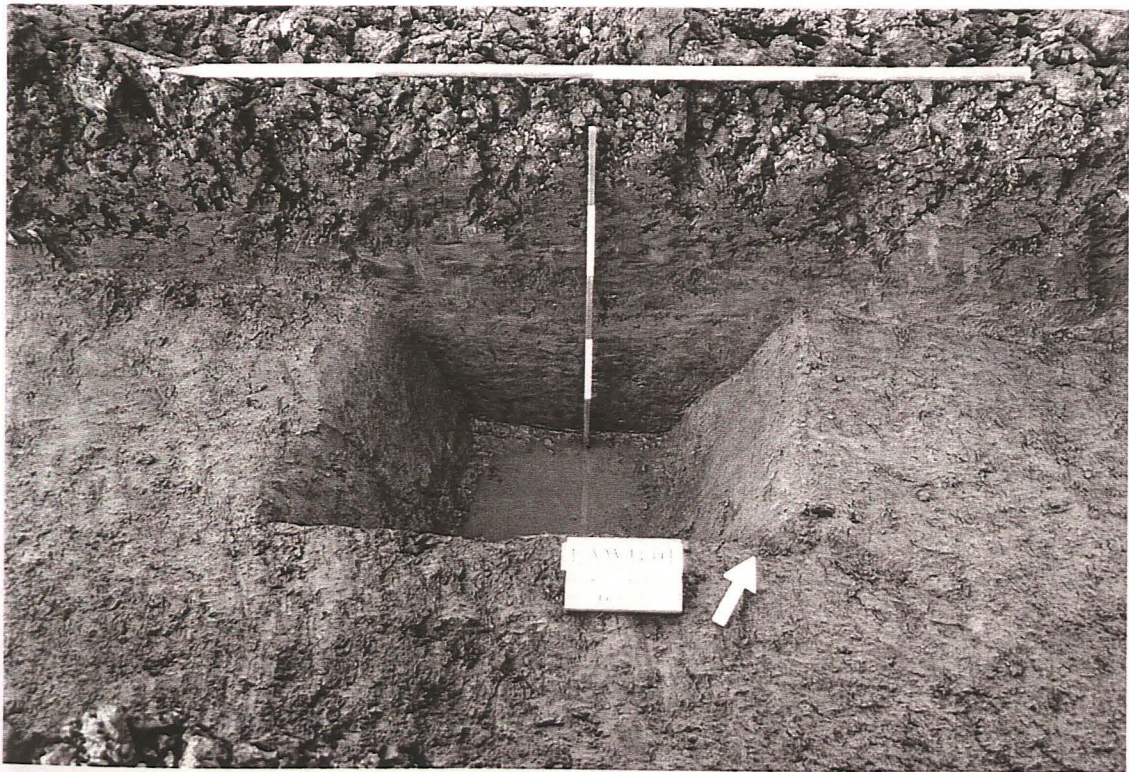
Pl. 5 ENE-facing section through ditch [305], looking SE.



Pl. 6 Trench 4 after cleaning, looking south.



Pl. 7 Trench 5 NE-facing representative section, looking SW.



Pl. 8 SE-facing section through ditch [603], looking NW.





Pl. 9 Trench 7 after excavation, looking NE.



Pl. 10 SE-facing section through ditch [704], looking NW.

APPENDIX 2: Roman pottery report by M. Darling

## **REPORT 96 ON POTTERY FROM THE EVALUATION AT WRANGLE, LINCOLNSHIRE, LAWB01**

**for PRE-CONSTRUCT ARCHAEOLOGY**

**by Margaret J. Darling, M.Phil., F.S.A., M.I.F.A.**

**6 February 2002**

### **QUANTITY AND CONDITION**

The Roman pottery came from a single context, 117, and amounted to just three sherds. The condition is average, with some abrasion, one sherd being just a flake. No problems are anticipated for long term storage. The pottery has been archived using count as measure according to the guidelines laid down for the minimum archive by *The Study Group for Roman Pottery*.

### **DETAILS**

The three sherds consist of a grey base from a bowl or dish in a relatively fine fabric, an abraded body sherd of grey sandy fabric, and a flake from an oxidized red-brown body sherd. The bowl or dish base is the only sherd offering any dating evidence, and since this does not have a chamfer at the base, the date range should be later 2nd to 3rd century.

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## Archive Report on the Post-Roman Pottery from an Evaluation at Wrangle, Boston, Lincolnshire (LAWB01)

Jane Young  
Lindsey Archaeological Services

### Introduction

Forty-two sherds of post-Roman pottery representing twenty-nine vessels were recovered from the site. The material is all Late Saxon in date. The pottery was examined both visually and using x20 magnification, then recorded on an Access database using locally and nationally agreed codenames.

### Condition

The pottery recovered is mainly in good condition with most sherds showing little abrasion. The shell temper is leached to varying degrees from most of the shell-tempered fabrics. Sherds from two vessels join across contexts; they are however, from within the same feature.

### Overall Chronology and Source

A range of six different, identifiable post-Roman pottery ware types was found on the site. The types and general date ranges for these fabrics are shown in Table 1. Identifiable vessel types are limited to jars and one possible pitcher.

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

codename	full name	earliest date	latest date	sherds	vessels
LSH	Lincoln shelly ware	850	1000	8	7
LSLOC	Late Saxon Local Fabrics	850	1050	6	5
SNLS	Saxo-Norman Lincoln Sandy Ware	970	1080	19	11
ST	Stamford Ware	850	1200	2	2
THET	Ipswich Thetford-type ware	880	1050	1	1
TORKT	Torksey-type ware	850	1080	6	5

Post-Roman pottery was recovered from three stratified features in Trench 1 and one in Trench 7 (see Table 2). The earliest pottery is probably of 10<sup>th</sup> century date (LSH), however, no chronologically diagnostic sherds occur and it remains possible that some of these sherds represent residual 9<sup>th</sup> century material. Feature 102 (fills 105, 108 and 110) produced a small but very important assemblage of late 10<sup>th</sup> to early 11<sup>th</sup> century date consisting mainly of Lincoln produced vessels. The quartz sand-tempered vessels (SNLS) include those that can be identified as products of two different production sites within the city of Lincoln (the Sessions House site on the east of Lindum Road and the Art College site on the west of Lindum Road). This is the first time that these two fabrics have been recognised together in what appears to be a contemporary group. The occurrence of these two types together suggest that the two workshops may be contemporary, a fact it has not been possible to confirm before due to the high residually factor in the City within deposits of this date. The presence on the site of eleven vessels in SNLS is somewhat surprising as this ware type was not as widely traded as the other Lincoln produced Late Saxon pottery types. Pottery recovered from the fill of feature 104 (context 119) is of slightly later date (early to mid 11<sup>th</sup> century) and reflects similar changes in ceramic supply to that occurring in Lincoln during this period.

**Table 2: Suggested deposition date of pottery groups from stratified contexts**

Trench	feature	context	date	sherds	vessels
1	102	105	late 10 <sup>th</sup> to early 11th	11	5
1	102	108	late 10 <sup>th</sup> to early 11th	7	5
1	102	110	late 10 <sup>th</sup> to early 11th	1	1
1	104	119	late 10 <sup>th</sup> to early 11th	21	18
1	114	116	10th	1	1
7	704	703	10 <sup>th</sup> to 11th	1	1

### ***Summary and Recommendations***

This is a small but highly important assemblage of Late Saxon pottery suggesting activity in the immediate area from the late 10<sup>th</sup> to early 11<sup>th</sup> through to the early to mid 11th period. This is the first assemblage to suggest that the two recently found production sites in Lincoln for the SNLS ware may have been in use at the same period. The assemblage should be kept for future study as part of a county ceramic type series.

# Pottery Archive LAW01

*Jane Young Lindsey Archaeological Services*

context	cname	sub fabric	form type	sherds	vessels	decoration	part	ref no	description	date
105	LSH		small jar	1	1		rim	vessel 2	soot;two wear marks on rim edge	10th
105	LSLOC	shell & quartz	small jar	1	1		BS		thin walled;soot;could be LSH Fabric C	10th
105	SNLS		jar	3	1		BS		soot	late 10th to early 11th
105	SNLS		jar	3	1		base & BS		fresh breaks;int dep ?; Art College kiln	late 10th to early 11th
105	SNLS		jar	3	1		rim & BS	vessel 1	Sessions House;soot;EVERC rim	late 10th to early 11th
108	SNLS		jar	2	1		BS		oxidised with reduced interior;Sessions House kiln	late 10th to 11th
108	SNLS		jar	1	1		base		oxidised;soot on sides	late 10th to 11th
108	SNLS		jar	1	1		rim		soot;EVERC rim;Sessions House	late 10th to early 11th
108	SNLS		jar	2	1		base	vessel 1	soot on sides not on underneath;Sessions House kiln	late 10th to early 11th
108	TORKT		jar	1	1		base		soot	10th to 11th

context	cname	sub fabric	form type	sherds	vessels	decoration	part	ref no	description	date
110	SNLS		small jar	1	1		rim		EVERC rim;soot;hard grey fabric but probably Sessions House kiln	late 10th to early 11th
116	LSH		small jar	1	1		rim	vessel 2	soot	10th
119	LSH		jar	1	1		BS		leached;abraded	10th
119	LSH		jar	1	1		rim		EVERA1 rim;soot on rim edge;leached	10th
119	LSH		jar	2	1		BS		leached;abraded;soot	10th
119	LSH		small jar	1	1	SROUL on shoulder	BS		leached;abraded	10th
119	LSH		small jar	1	1		BS		leached;abraded;soot	10th
119	LSLOC	fine-med shell	?	2	1		base		abundant fine-medium shell similar in appearance to MSAXLOC fabric A from Quarrington	10th to 11th
119	LSLOC	shell & quartz	?	1	1		BS		leached;abraded	10th to 11th
119	LSLOC	shell & quartz	?	1	1		BS		leached;abraded	10th to 11th
119	SNLS		?	1	1		base		abraded;int carbonised deposit	late 10th to 11th
119	SNLS		?	1	1		BS		abraded	late 10th to 11th

context	cname	sub fabric	form type	sherds	vessels	decoration	part	ref no	description	date
119	SNLS		jar	1	1		BS		abraded	late 10th to 11th
119	ST	A	small jar	1	1		base		soot;unglaze	late 10th to 11th
119	ST	G	jar/pitcher	1	1		BS		abraded;glaze	11th
119	THET	T ?	jar	1	1		base			10th to 11th
119	TORKT		?	1	1		BS			10th to 11th
119	TORKT		jar ?	1	1		base		soot	10th to 11th
119	TORKT		small jar	1	1		base		oxidised	10th to 11th
119	TORKT		small jar	2	1		rim & BS			10th to 11th
703	LSLOC	medium shell	?	1	1		BS		abraded;leached	10th to 11th

## APPENDIX 4: Fired clay report by Alan Vince

### Land at Wrangle, Boston

A small collection of fired clay was submitted for assessment. The material came from a site which was occupied in both the Roman and Anglo-Scandinavian periods. However, three of the assemblages, 105, 108 and 119, were associated with Anglo-Scandinavian pottery and none of the finds were associated with Roman pottery. There is therefore a good case for that material, at least, dating to the 10<sup>th</sup>/11<sup>th</sup> centuries. It is suggested below that it may be associated with salt extraction, using the medieval and post-medieval method outlined by McAvoy in his report on the Wainfleet salterns (McAvoy 1994). The remainder, from contexts 117 and 201, is probably late/post-medieval brick.

The collection is significant because it hints that the method of salt extraction recorded in documentary sources in the 17<sup>th</sup> century, and demonstrated archaeologically at the end of the medieval period at Wainfleet, was actually in use in the pre-conquest period. The material is not briquetage, in the strict sense, in that the clay was not formed into trays or stilts but was simply unworked sods of silty clay which became burnt as part of the extraction process.

#### Context 105

Seven small fragments of burnt clay, 64gm. The material is homogenous micaceous silt in which the micas consist of both muscovite and biotite, up to 0.1mm long. The fragments are traversed by root or animal burrows, up to 2.0mm wide, some of which are lined with iron-panning. No fragments have any faces and there is no sign of structure which might indicate human working of the silt before burning. The range of colours indicate low temperature burning, and the survival of carbon in one fragment indicates a short duration.

The fragments are probably burnt 'turf', ie cubes of silty subsoil cut with a spade and used in filtration of salt.

#### Context 108

Three fragments of burnt clay, 42gm. Very similar to those from context 105. One piece, with a carbon-rich core, appears to come from the corner of a rectangular block, although no surfaces survive.

#### Context 117

Two small fragments of fired clay, 25gm. The details of their colour, texture and inclusions indicate that the two objects are separate but both were made from a micaceous silty clay, in which the micas include both muscovite and biotite. This material is typical of fen silts. The colours indicate firing at temperatures in the region of 800-900 degrees C in an oxidizing atmosphere and the range of colours in one piece indicates the presence of brine. The other piece is variegated, indicating some working. The



pieces are probably late medieval/post-medieval brick fragments but might be earlier and related to salt extraction.

#### **Context 119**

Thirteen fragments of burnt clay, 113gm. The pieces are similar in character to those from contexts 105 and 108. Three of the pieces have carbon-rich cores and, probably, flat faces. One of these pieces may come from the corner of a rectangular block.

#### **Context 201**

One large fragment of brick, 195gm. The fabric is oxidised and consists of a calcareous groundmass, streaked with off-white lenses, with moderate subangular quartz up to 1.0mm across and sparse rounded iron-rich inclusions, angular flint and rounded fine-grained sandstone up to 3.0mm across. Only one original face survives, and even that is abraded so it is not possible to determine either the size or the material used to line the mould (usually either a quartzose sand or organic matter, such as straw). A date between c.1350 and 1800 is likely.

#### **Bibliography**

McAvoy, F (1994) Marine Salt Extraction: The Excavation of Salterns at Wainfleet St Mary, Lincolnshire. *Medieval Archaeology* XXXVIII, 134-163

## APPENDIX 5: Environmental Archaeology Assessment and animal bone archive report

## Land at Wrangle, Boston – LAWB01

**Introduction**

An evaluation excavation conducted by Pre-Construct Archaeology investigated a Saxo-Norman site comprising ditches, a gully and a pit. Two samples were submitted for processing and environmental assessment to the Environmental Archaeology Consultancy (Table 1).

**Table 1:** Land at Wrangle. Samples taken for environmental analysis

sample no.	context no.	sample volume (l)	feature	date
2	110	14	Primary fill of ditch recut 102	Saxo-Norman
3	118	12	Lower fill of pit 103	Saxo-Norman

**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 flot were dried 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 residue recorded. A total of 26 litres of soil was processed in this way.

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 and a count made of the number of flakes or spheroids of hammerscale collected. The residue was then discarded. The flot of each sample was studied using x10 magnification and 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. The flots were then bagged and along with the finds from the sorted residue, constitute the material archive of the samples.

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

**Results**

There is very little evidence of any recent contamination in the samples. The only identifiable material of an intrusive nature is a very few shells of the burrowing snail *Cecilioides acicula*.

*Context 110.* The coarse and medium residues of this sample are composed of predominantly fired earth, small shell fragments, some pottery crumb and some concreted sediment. The fired earth was fired under oxidizing conditions and included some shell fragments. The sample produced pottery, marine shell, burnt bone, a few fish bones, charred grain and charcoal (see Tables 2 and 3). The flot was marked by a very large proportion of disaggregated mollusc shell fibres. This has derived from the disintegration of mussel shell, *Mytilus edulis*, in the soil and the washing process has further broken up the shells. Apart from this fibrous matter and

several intact fragments of mussel shell, the only other shellfish was a single fragment of cockle, *Cardium edule*.

The flot included over three hundred charred cereal grains. Much of this material was fairly poorly preserved but barley appears to be the most abundant cereal with a few grains of wheat, and a number of grass seeds are present. Apart from the grain and charcoal the only other charred finds included two or three fragments of what are probably straw and three fragments of charred legume, possibly pea or bean. No other chaff fragments or charred weed seed were noted.

**Table 2:** Land at Wrangle. Finds from the processed samples

sample no.	context number	sample volume (l)	residue volume (l)	pot no/wt (g)	fired earth (g)	mag. (g.)	marine shell (g)	bone (g)	comments
2	110	14	0.3	25/51	56	<1	29	1	Much mussel fibre
3	118	12	0.5	8/6	26		<1	5	2g of fish bone

*Context 118.* The >2mm residue from this sample is comprised mainly of concreted silts, with the occasional root pseudomorph and fragment of fired earth and pottery crumb. Finds were less abundant than in context 110 with a few pottery fragments, very little mussel shell, and a little bone. Fish bones were frequent with over forty small vertebrae from several taxa of small marine fish.

The flot produced about forty fragments and whole grains of charred cereal, including wheat and barley, with a little charcoal and no other finds.

**Table 3:** Land at Wrangle. Environmental finds from the processed samples

sample no.	context no.	sample volume (l)	flot volume (ml)	Char-coal *	charred grain *	marine shell *	fish bone *	snails *	comment
2	110	14	200	3	5	4	1		Barley, wheat, grasses, legume-possible pea or bean, abundant mussel shell, cockle, small fish – most of the flot is mussel shell fibres
3	118	12	2	2	2	1	3	1	Wheat, barley, <i>Cecilioides acicula</i> , mussel, pig and frequent small fish

\*frequency 1=1-10; 2=11-50; 3=51-150; 4=151-250; 5=>250

### Discussion

The two samples include appreciably different assemblages. The ditch fill, 110, is dominated by mussel shells, most of which have degraded to the point of disintegration, and has a high number of charred cereal grains and frequent pottery and fired earth. This appears to be fairly typical of a domestic rubbish dump with the waste from domestic activities, hearths and food processing being discarded into the ditch.

The pit fill, 118, in contrast has a much lower concentration of domestic waste, although still present in some quantity. It has few mussel shells but produced over 42 small fish vertebrae from at least three taxa. This assemblage is still suggestive of domestic waste although indicating differential discard.

The charred grain assemblages in both samples are 'clean', lacking any charred weed seeds (except the larger grasses) or chaff fragments, suggesting that they were probably charred during food preparation or cooking rather than at some stage in the crop processing procedures.

### ***Animal bone***

A small collection of animal bones, eighteen fragments, was recovered during the excavations. The bones have been identified and recorded following the procedures of the Environmental Archaeology Consultancy (see attached Key) and the catalogue is attached to this report. The condition of the bones is good, although somewhat brittle such that a few have broken since excavation. The sample includes bones of horse, cattle, pig and sheep. The latter species includes fragments from two markedly different sized animals- one fairly robust (703) and the other gracile (105). The latter gracile animals are normally associated with Iron Age and early Roman contexts but can also be found on Saxon sites, the more robust individual is more typical of Roman, medieval or later deposits.

### ***Conclusion and recommendations***

Both samples are indicative of domestic rubbish and the density of material in the samples suggests that this domestic occupation is very nearby. The samples indicate exploitation of the local marine environment for food, particularly shellfish and small fish, that could have been taken from the shore or perhaps small boats operating close inshore. The site was consuming barley, with some wheat, although there is no evidence that it was growing its own cereals. There was very little evidence for domestic animal bone in the samples, a single tiny fragment of pig tooth was the only unburnt bone fragment. This may be a behavioural factor in that the contexts evaluated did not contain bone, but could equally be due to poor survival despite the occurrence of the fish bones. It can be seen that preservation is evidently a significant problem from the very high disintegration of the mussel shells in context 110.

These samples indicate fairly high densities of domestic rubbish and dietary waste despite the preservation problems and suggest that the excavated features are located adjacent to a settlement. Although the animal bone sample is small its condition is quite good and bone can be expected to have survived in all features in which it was deposited. There is good potential for information on exploitation of local marine resources, agricultural production and diet from these deposits and should further excavation be undertaken then allowance should be made for a full programme of sampling with specific focus on the fish, shellfish and cereal remains and the hand collection of the larger animal bone. Sample sizes should be a minimum of 30 litres where possible and the samples should target the full range of contexts types found, taking account of their spatial distribution across the site.

### ***Acknowledgements***

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

### ***Bibliography***

Williams, D.1973 Flotation at Siraf, *Antiquity*, 47, 198-202

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7<sup>th</sup> February 2002

**THE ENVIRONMENTAL ARCHAEOLOGY CONSULTANCY***Key to codes used in the cataloguing of animal bones and marine shells***SPECIES:**

SPECIES CODE			SPECIES CODE	
MAN	Human		DOVE	Dove species
EQU	Horse		FER	Feral dove
EQSZ	Horse size		PART	Partridge
BOS	Cattle		SWAN?	Swan?
BOSL	Cattle-large		WOOD	Woodcock
CSZ	cattle size		CURL	Curlew
SUS	Pig		WADE	wader
OVCA	sheep or goat		CROK	Crow or rook
OVI	Sheep		CORV	Crow or rook
CRA	Goat		JACK	Jackdaw
SSZ	sheep size		OWL	Owl indet.
FEL	Cat		BUZZ	Buzzard
CAN	Dog		GULL	Gull sp.
AUR	Aurochs			
AUR?	Aurochs?		TURD	Turdidae
CER	red deer		BIRD	Identifiable but not id'd
DAM	Fallow deer		PASS	Passerine
CLS	roe deer		LBIRD	Large bird
LEP	Hare		UNIB	Bird indet
ORC	Rabbit			
LAG	Lagomorph		FROG	Frog
CARN	Carnivore		FRTO	Frog or toad
FOX	Fox			
POLE	Polecat/ferret			
WEA	Weasel		GAD	Gadid, cod family
BADG	Badger		LING	Ling
SEAL	Seal		HADD	Haddock
SQU?	Squirrel?		RAY	ray
BEAV	Beaver		FISH	Fish
ROD	Rodent		UNIF	Fish indet
RAT	Rat			
AGR	Field vole		OYS	oyster
ARV	Water vole		COK	Cockle
MUS	House mouse		MUSS	Common Mussel
SORA	Common shrew		WHELK	Common whelk
MOLE	Mole		HEL	Helix aspersa
SMA	Small mammal		HELIX	Helix sp.
UNI	Unknown		HELN	Helix nemoralis
			SNAIL	snail
CHIK	Chicken			
CHKZ	Chicken size		FOSS	Fossil bone
GOOS	Goose, dom			
GOOS?	Goose, dom.?			
GSSZ	Goose size			
GSSP	Goose species			
GOSZ	Goose, poss. Wild			
DUCK	Duck, domestic sp.			
DUCK?	Duck?			
DKSP	Duck species			
DSP	Duck species indet			
MALL	Duck, dom.			
TURK	Turkey			

**BONE ELEMENT:**

BONE CODE		BONE CODE	
SKEL	Skeleton	SCP	scapula
SKL	Skull	HUM	humerus
ANT	Antler	RAD	radius
ANT?	antler?	ULN	ulna
ATT	antler tine	RUL	radius and ulna
HC	horn core	C/T	carpus/tarsus
TEMP	Temporal	C23	carpus 2+3
FRNT	Frontal	CAR	carpus
PET	Petrous	CPA	accessory carpal
PAR	Parietal	CPI	intermediate carpal
OCIP	Occipital	CPR	radial carpal
ZYG	Zygomatic	CPU	ulnar carpal
NAS	Nasal	MTC	metacarpus
PMX	Premaxilla	MC1-5	metacarpus 1-5
MAN	Mandible	MTP	metapodial
MNT	mandibular tooth	MPL	lateral metapodial
DLI	deciduous lower incisor	INN	innominate
DLPM1-4	deciduous lower premolar 1-4	ILM	ilium
LI	lower incisor (and 1-3)	PUB	pubis
LC	lower canine	ISH	ischium
LPM1-LPM4	lower premolar 1-4	FEM	femur
LM1-LM3	lower molar 1 - molar 3	PAT	patella
MAX	Maxilla	TIB	tibia
DUI	deciduous upper incisor	FIB	fibula
UI	upper incisor (1-3)	LML	lateral malleolus
UC	upper canine	AST	astragalus
DUPM	deciduous upper premolar	CAL	calcaneum
DUPM1-4	deciduous upper premolar 1-4	CQ	centroquartal
UPM1-UPM4	upper premolar 1-4	TAR3	tarsus 3
UM1-UM3	upper molar 1 - molar 3	T4	tarsus 4
MXT	maxillary tooth	TAR	tarsus
TTH	indeterminate tooth	MTT	metatarsus
INC	Incisor	MT1-5	metatarsus 1-5
HYD	Hyoid	MTL	lateral metatarsus
ATL	Atlas	SES	sesamoid
AXI	Axis	PH1	1st phalanx
CEV	cervical vertebra (and 3-7)	PH2	2nd phalanx
TRV	thoracic vertebra (and 1-13)	PH3	3rd phalanx
LMV	lumbar vertebra	PHL	lateral phalanx
SAC	sacrum	LBF	long bone
CDV	caudal vertebra	UNI	unidentified
VER	vertebra		
STN	sternum	CLV	clavicle
CC	costal cartilage	COR	coracoid
RIB1	first rib (2 etc)	CMP	carpo-metacarpus
RIB	rib	CMC	carpo-metacarpus
		WPH1-3	wing phalanges 1-3
URO	urostyle	WPH	wing phalanx
		LSA	lumbosacrale
DENT	dentary		
CLEI	cleithrum		
RAY	fin ray		
SHELL	shell		
UV	upper valve		
VAL	valve		

**NUMBER:** number of fragments in the entry

**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

**ZONES:** records the part of the bone present.  
The key to each zone on each bone is on page 4

**BUTCHERY:** records whether a bone has been chopped (CH), cut (KN), worked (W), burnt (C)

**GNAWING:** records if a bone has been gnawed by dogs (DG), cats (FEL) or rodents (RG)

**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:

Deciduous	Permanent
f ldpm2/dupm2	F lpm2/upm2
g ldpm3/dupm3	G lpm3/upm4
h ldpm4/dupm4	H lpm4/upm4
	I lm1/um1
	J lm2/um2
	K lm3/um3

**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

**PATHOLOGICAL:** A 'P' indicates that the bone fragment carries a pathology

**COMMENTS:** This may include a short description of the fragments, any pathologies, butchery or gnawing evidence

**PRESERVATION:** records the condition of the bone in the following manner

- 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

## ZONES - codes used to define the zones on each bone

SKULL	1. paraoccipital process	METACARPUS	1. medial facet of proximal articulation, MC3	
	2. occipal condyle		2. lateral facet of proximal articulation, MC4	
	3. intercornual protuberance		3. medial distal condyle, MC3	
	4. external acoustic meatus		4. lateral distal condyle, MC4	
	5. frontal sinus		5. anterior distal groove and foramen	
	6. ectorbitale		6. medial or lateral distal condyle	
	7. entorbitale			
	8. temporal articular facet		FIRST PHALANX	1. proximal epiphysis
	9. facial tuber			2. distal articular facet
	0. infraorbital foramen			
MANDIBLE		INNOMINATE	1. tuber coxae	
	1. Symphyseal surface		2. tuber sacrale + scar	
	2. diastema		3. body of illium with dorso-medial foramen	
	3. lateral diastemal foramen		4. iliopubic eminence	
	4. coronoid process		5. acetabular fossa	
	5. condylar process		6. symphyseal branch of pubis	
	6. angle		7. body of ischium	
	7. anterior dorsal ascending ramus posterior M3		8. ischial tuberosity	
	8. mandibular foramen		9. depression for medial tendon of rectus femoris	
VERTEBRA	1. spine	FEMUR	1. head	
	2. anterior epiphysis		2. trochanter major	
	3. posterior epiphysis		3. trochanter minor	
	4. centrum		4. supracondyloid fossa	
	5. neural arch		5. distal medial condyle	
SCAPULA	1. supraglenoid tubercle	TIBIA	6. lateral distal condyle	
	2. glenoid cavity		7. distal trochlea	
	3. origin of the distal spine		8. trochanter tertius	
	4. tuber of spine		1. proximal medial condyle	
	5. posterior of neck with foramen		2. proximal lateral condyle	
	6. cranial angle of blade		3. intercondylar eminence	
	7. caudal angle of blade		4. proximal posterior nutrient foramen	
HUMERUS	1. head	CALCANEUM	5. medial malleolus	
	2. greater tubercle		6. lateral aspect of distal articulation	
	3. lesser tubercle		7. distal pre-epiphyseal portion of the diaphysis	
	4. intertuberal groove		1. calcaneal tuber	
	5. deltoid tuberosity		2. sustentaculum tali	
	6. dorsal angle of olecranon fossa		3. processus anterior	
	7. capitulum		METATARSUS	1. medial facet of proximal articulation, MT3.
	8. trochlea			2. lateral facet of proximal articulation, MT4
9.	3. medial distal condyle, MT3			
RADIUS	0.	METATARSUS	4. lateral distal condyle, MT4	
	1. medial half of proximal epiphysis		5. anterior distal groove and foramen	
	2. lateral half of proximal epiphysis		6. medial or lateral distal condyle	
	3. posterior proximal ulna scar and foramen			
	4. medial half of distal epiphysis			
	5. lateral half of distal epiphysis			
ULNA	6. distal shaft immediately above distal epiphysis			
	1. olecranon tuberosity			
	2. trochlear notch- semilunaris			
	3. lateral coronoid process			
	4. distal epiphysis			



## Archive Catalogue of animal bone from Land at Wrangle – LAWB01

site	cont.	species	bone	no.	side	fusion	zone	butchery	gnawing	measurement	comment	pre
LAWB01	105	EQU	PH2	1	F	PN	2				DISTAL HALF-EPI UNFUSED AND LOST	4
LAWB01	105	OVCA	TIB	1	R						SHAFT- 2 PIECES-GRACILE	4
LAWB01	105	SSZ	LBF	1	F				DG		SHAFT FRAGMENT-ONE END GNAWED	4
LAWB01	105	SSZ	LBF	1	F						SHAFT FRAGMENT	4
LAWB01	105	SUS	SKL	1	L		8	CH			PART TEMPORAL ARTICULATION-CHOPPED ACROSS ARTIC	4
LAWB01	105	UNI	UNI	1	F			C			INDET CALCINED FRAGMENT	4
LAWB01	117	BOS	SKL	1	F						NASAL FRAGMENT- 4 PIECES	4
LAWB01	119	BOS	ULN	1	R			KNCH			SHAFT JUST BELOW PROX ARTIC-SHAFT SHAVED AND CUT-POSS WORKED	4
LAWB01	119	CSZ	FEM	1	F	PJ		CH			PART PROX ARTICULATION-CAPUT CHOPPED OFF	4
LAWB01	119	CSZ	LBF	1	F			C			CALCINED SHAFT FRAGMENT	4
LAWB01	119	CSZ	UNI	1	F			C			INDET-BURNT	4
LAWB01	119	CSZ	UNI	1	F						INDET	4
LAWB01	119	OVCA	MTT	1	F						ANT POST SHAFT FRAGMENT	4
LAWB01	119	SSZ	LBF	1	F						SHAFT FRAGMENT- 4 PIECES	3
LAWB01	119	SSZ	TIB	1	F						MIDSHAFT FRAGMENT	4
LAWB01	202	EQU	MTC	1	L		12	JKN		Bp-44.6 SD-30	PROX END AND SHAFT-PONY SIZE-CUT MARKS ON SHAFT	4
LAWB01	703	EQU	TIB	1	L	DF	56			Bd-73.4	DISTAL END	3
LAWB01	703	OVCA	TIB	1	L	DF	567		DG	Bd-28.6 Dd-20.1 SD-15	SHAFT AND DISTAL END- 2 PIECES-TOOTH MARKS ON SHAFT	4

## APPENDIX 6: List of Archaeological Contexts

**Trench 1**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
100	layer	ploughsoil
101	layer	alluvial subsoil
102	recut	recut of ditch recut [120]
103	cut	pit?
104	cut	gully
105	fill	fill of [102]
106	fill	fill of [102]
107	fill	fill of [102]
108	fill	fill of [102]
109	void	-
110	fill	fill of [102]
111	fill	fill of [120]
112	fill	fill of [120]
113	fill	fill of [114] (Same as (115))
114	cut	primary ditch cut
115	fill	fill of [114] (Same as (113))
116	fill	fill of [114]
117	fill	fill of [103]
118	fill	fill of [104]
119	fill	fill of [103]
120	recut	recut of ditch [114]
121	layer	natural silty clay

**Trench 2**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
200	layer	ploughsoil
201	fill	upper fill of [203]
202	fill	lower fill of [203]
203	cut	ditch
204	layer	natural silty clay
205	layer	alluvial subsoil

**Trench 3**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
300	layer	ploughsoil
301	layer	alluvial subsoil
302	layer	natural silty clay
303	layer	oxidised upper horizon of (302)
304	layer	natural silt
305	cut	ditch
306	fill	fill of [305]
307	fill	fill of [310]
308	fill	fill of [310]
309	fill	fill of [305]
310	cut	recut of ditch [305]

**Trench 4**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
400	layer	ploughsoil
401	layer	alluvial subsoil
402	layer	?oxidised upper horizon of (403)
403	layer	natural silty clay
404	layer	natural silty clay

**Trench 5**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
500	layer	ploughsoil
501	layer	alluvial subsoil
502	layer	?oxidised upper horizon of (503)
503	layer	natural silty clay
504	layer	natural silty clay

**Trench 6**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
600	layer	ploughsoil
601	layer	alluvial subsoil
602	fill	fill of [603]
603	cut	ditch
604	layer	natural silty clay

**Trench 7**

<i>Context No.</i>	<i>Category</i>	<i>Description</i>
700	layer	ploughsoil
701	layer	alluvial subsoil
702	layer	natural silty clay
703	fill	fill of [704]
704	cut	ditch
705	fill	fill of [706]
706	cut	ditch