



Northamptonshire  
County Council

## Northamptonshire Archaeology

Archaeological Investigations at  
Plot 4, Spring Lane, Yelden  
Bedfordshire  
October-November 2004



Edmund Taylor

September 2007

Report 07/123

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### Northamptonshire Archaeology

2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE

t. 01604 700493 f. 01604 702822

e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)

w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



**STAFF**

Project Manager	Adam Yates BA AIFA
Text	Edmund Taylor BSc
Fieldwork	Edmund Taylor Nathan Flavell BA PGDip Samantha Hepburn BA PGDip
Metal Detector	Steve Critchley BSc
Illustrations	Jacqueline Harding BA HND
Medieval Pottery	Paul Blinkhorn B Tech
Small Finds	Tora Hylton
Slag	Andy Chapman BSc MIFA
Animal Bone	Karen Deighton MSc
Environmental Evidence	Karen Deighton
Charcoal	Rowena Gale Honorary Research Associate, Royal Botanic Gardens, Kew

**QUALITY CONTROL**

	Print name	Signed	Date
Checked by	P. CHAPMAN	<i>P Chapman</i>	29/1/08
Verified by	A. YATES	<i>A Yates</i>	29/1/08
Approved by	A. CHAPMAN	<i>A Chapman</i>	29/1/08

**OASIS REPORT FORM**

<b>PROJECT DETAILS</b>		
Project name	Archaeological Investigations at Plot 4, Spring Lane, Yelden, Bedfordshire October-November 2004	
Short description (250 words maximum)	Archaeological investigations undertaken by Northamptonshire Archaeology on land at Spring Lane, Yelden, Bedfordshire revealed evidence for medieval agriculture and iron smelting.	
Project type (eg DBA, evaluation etc)	Recording Action	
Site status (none, NT, SAM etc)	None	
Previous work (SMR numbers etc)	Trial trench evaluation (BCAS 1999) Excavation of plots 1,2 and 3 (NA 2003)	
Current Land use	Pasture	
Future work (yes, no, unknown)	No	
Monument type/ period		
Significant finds (artefact type and period)	Saxon and medieval pottery. Medieval Cu alloy buckle plate	
<b>PROJECT LOCATION</b>		
County	Bedfordshire	
Site address (including postcode)	Spring Lane, Yelden, Bedfordshire	
Study area (sq.m or ha)	0.054 ha	
OS Easting & Northing (use grid sq. letter code)	TL 0117 6708	
Height OD	65m	
<b>PROJECT CREATORS</b>		
Organisation	Northamptonshire Archaeology	
Project brief originator	Bedfordshire County Council Heritage and Environment Section	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Edmund Taylor	
Project Manager	Adam Yates	
Sponsor or funding body	Paul Brown	
<b>PROJECT DATE</b>		
Start date	Oct 2004	
End date	Nov 2004	
<b>ARCHIVES</b>	<b>Location (Accession no.)</b>	<b>Content (eg pottery, animal bone etc)</b>
Physical	BEDFM 2003.97	Pottery, animal bone
Paper	BEDFM 2003.97	Site record (context sheets, drawings, photographs etc)
Digital	BEDFM 2003.97	Photographs, digital reports, spreadsheets
<b>BIBLIOGRAPHY</b>	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title		
Serial title & volume		
Author(s)		
Page numbers		
Date		

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**ARCHAEOLOGICAL INVESTIGATIONS AT PLOT 4,  
SPRING LANE, YELDEN, BEDFORDSHIRE**

**October-November 2004**

**Report 07/123**

*Abstract*

*Archaeological investigations were undertaken by Northamptonshire Archaeology on behalf of Mr. Paul Brown on land at Plot 4, Spring Lane, Yelden, Bedfordshire. The excavation revealed Late Saxon and medieval boundary ditches and evidence for later medieval iron smelting.*

*This document includes a synthetic account of the results of the excavations together with detailed descriptions of the features excavated and supporting specialist reports. It is intended that the results of these excavations will be incorporated with other works on the same site to produce an overarching publication.*

**1 INTRODUCTION**

An archaeological excavation covering approximately 0.054ha was carried out by Northamptonshire Archaeology on land at Spring Lane, Yelden (or Yielden), Bedfordshire (NGR TL 0117 6708, Fig 1). The work was carried out ahead of the proposed development of a single detached dwelling on Plot 4 (Planning Application No 03/2378). Plot 4 separated Plot 1 from Plots 2 and 3 which have already been the subject of archaeological excavation (Taylor 2004)

The archaeological works were carried out in accordance with the Design Brief prepared by Bedfordshire County Council Heritage and Environment Section (BCCHEs 2004) and a Project Design prepared by Northamptonshire Archaeology (Yates and Dawson 2004).

**2 BACKGROUND**

**2.1 Topography and geology**

The development area is located in the village of Yelden which lies at the extreme north end of Bedfordshire, east of Rushden, Northamptonshire. It is bounded to the west by Spring Lane, Church Cottage and Chichely Cottage and to the east by a fence bounding the properties adjacent to High Street.

The site lies on the west bank of the upper reaches of the River Til which flows east to meet the River Great Ouse at St Neots. At the time of excavation the land comprised terraced pasture sloping from north to south, with an average height of 65m above Ordnance Datum. The underlying geology is mainly Oxford Clay with some localised patches of sand and gravel.

## **2.1 Archaeological background**

The development is sited within an area of archaeological sensitivity as illustrated by the results of previous archaeological work within the application area and the surrounding areas. An archaeological trial excavation of land immediately to the east, by Bedfordshire County Archaeological Service in 1992 (BCCAS 1992), demonstrated a long sequence of intermittent occupation from the late prehistoric through to the modern day.

An archaeological trial excavation and earthwork survey was carried out in 1999 within the proposed development area (BCAS 1999). The evaluation comprised the excavation of three trenches in Plots 2, 3 and 4. These demonstrated activity from the Roman period to the modern day.

Plots 1, 2 and 3 were subsequently excavated by Northamptonshire Archaeology in 2003 (Taylor and Yates 2004). The excavation revealed a sequence of occupation on the site dating from the later Iron Age to the late medieval period.

Immediately to the north-west of the site is the parish church of St. Mary the Virgin, a predominantly 13th-14th century building (HER 1154). The earthworks of Yelden Castle and its associated features, a Scheduled Ancient Monument (HER 341) are situated approximately 150m to the east.

## **3 AIMS AND OBJECTIVES**

The main objectives of the archaeological excavation, as defined in the Design Brief, were to determine and understand the nature, function and character of the site in its cultural and environmental setting.

The specific aims of the project were to:

- Determine the date and character of the archaeological activity at the site as suggested by the features seen in Trench 3 of the 1999 evaluation and the excavation undertaken by Northamptonshire Archaeology in 2003.

- Obtain a chronological sequence for the human activity on the site and to place it within its regional context(s).
- To integrate the archive with the excavations at Plots 1, 2 and 3 to allow for the production of a single publication report.

#### **4 EXCAVATION METHODOLOGY**

Topsoil was removed under continuous archaeological supervision using a 180° JCB-type excavator fitted with a 1.20m toothless ditching bucket. Topsoil was stripped to reveal the first significant archaeological layer or the natural substrate. The extreme north-west corner of the site was left unexcavated due to the presence of a septic tank.

A site grid was established at 5m intervals and related to the Ordnance Survey National Grid. Where necessary the archaeological surface was cleaned by hand and planned at a scale of 1:50. All discrete features and approximately 10% of linear features were sectioned, drawn at a scale of 1:10 and recorded on pro-forma sheets. A unique context number was allocated to each distinct deposit and feature.

Soil samples of 40 litres (where possible) were taken for flotation from dateable contexts with a potential for the recovery of charcoal and carbonised plant remains.

The site and the spoil heaps were scanned with a metal detector to maximize finds retrieval.

A full photographic record comprising both 35mm monochrome negatives, with associated prints, and colour transparencies was maintained.

All works were conducted in accordance with the IFA *Standards and Guidance for Archaeological Excavations* (1994, revised 1999) and the *Code of Conduct of the Institute of Field Archaeologists* (1985, revised 2000). Works were monitored by BCCHEs.

#### **5 SUMMARY OF EXCAVATION RESULTS**

The following section gives a broad overview of the stratigraphic sequence using the same Phasing model set out for the previous excavation on Plots 1, 2 and 3 (Taylor and Yates 2004) (Fig 2). The absence of prehistoric, Roman and Early Saxon activity on Plot 4 means that the



sequence begins at Phase 4, the Late Saxon and medieval periods.. Detailed descriptions of individual features and specialist reports can be found in the Appendices.

The natural substrate (303) was encountered between 0.60m and 1m below ground level. This comprised mottled orange and grey clays and gravels with patches of orangey yellow sand. The site had a gentle downward slope of approximately 0.50m from west to east.

### **5.1 Phase 4: Late Saxon and medieval boundary ditches (12th century)**

The earliest activity on this plot comprised six ditches. Five of these were aligned north-west to south-east and formed a dense grouping in the extreme south-west corner of the site (Figs 3 and 4 Sections 144, 145 and 146). Analysis of the charcoal suggests that debris from the burning of hedge cuttings or domestic hearths was being discarded into these features (see section 7.3). Ditches [398] and [400] which were cut by pits [394] and [396] respectively, were the most substantial of the group while [406], [402] and [404] were little more than shallow furrows. Pottery dating to the Middle Saxon period and the 12th century was recovered from ditches [400] and [404].

Ditch [332] (Figs 3 and 4, Section 117) can be seen as a boundary or drainage feature running across the site on a north to south alignment. The primary fill comprised a compact sandy silt suggesting natural silting after abandonment rather than purposeful backfilling. Overlying this was a loose silty clay loam similar to and probably derived from the plough soil (302) which overlay the ditch at its northern extremity. A single sherd of 12th-century pottery was retrieved from this feature. Subsequent to its silting sometime after the 12th century, an animal burial [372] was cut into the upper fill (Fig 5, Plate 1). This contained two neonatal bovid calves (370) and (371). Sherds of 12th century pottery were collected from the backfill of the burial but it is likely that they were redeposited from the fill of ditch [332].

Soon after these features fell into disuse a plough soil accumulated across the site (302). This comprised a dark grey silty clay loam which survived at its greatest depth of at least 0.30m in the north-east corner of the plot, becoming shallower and intermittent to the south and south-east. Although no dateable evidence was retrieved from this plough soil its stratigraphic position would indicate that its formation post-dated the 12th century. A Saxo-Norman date had tentatively been suggested by the 1999 evaluation (BCAS 1999).

## 5.2 Phase 5: Medieval industrial activity (12th-14th centuries)

Phase 5 comprised by a series of linear features, postholes and pits indicative of industrial activity (Fig 6). Most of the features assigned to this phase cut the plough soil (302), but where this was absent they cut the natural substrate (303).

At the north end of the investigation area there was a loose grouping of four shallow pits, [305], [317]/[325] [308], [313], [319], [329] (Fig 7, Sections 110 and 114) and a possible furnace base [310] (Fig 7, Section 109, Plate 2). A number of these had been identified by the 1999 evaluation. They ranged in depth from 0.05m to 0.19m. In general these pits were filled with a dark greyish silty clay which often contained abundant levels of charcoal, occasional slag and burnt clay fragments. Pottery from the 12th century was recovered from these contexts.

The furnace base [310] (Fig 7, Section 109) was slot-shaped in plan and 1.50m long, 0.50m wide and 0.15m deep. It displayed evidence of *in situ* burning around its upper edges where the plough soil (302), through which the feature had been cut, was baked hard. The natural substrate at the base of the pit also had patches of scorching. Approximately 1.50m to the south-east of this feature there was a small dump of tap slag (306). Scorching below this would suggest that it was deposited there whilst still hot. Given the distance from the *in situ* furnace base and the nature in which tap slag is run out of furnaces, it is possible that there had been a second, adjacent furnace. A small dump of oak charcoal was also present to the south-west of feature [310], indicating that mature oak was the preferred fuel (see paragraph 7.3). This group of features indicates that smelting was taking place on the site during this phase. Waste from the furnace or furnaces was discarded into nearby pits, which were perhaps dug specifically for this reason.

Pits [313] and [319] were cut through the plough soil (302) and the continuation of [332] beneath the soil was observed in their bases as ditches [315] and [323] respectively (Fig 7, Sections 110 and 114). The fills of both pits contained a high percentage of charcoal. Pit [319] was cut on its western edge by the bulbous terminal of ditch [327] which was aligned north-west to south-east and produced 12th-century pottery and a single sherd of residual Saxon material.

Posthole group [346] comprised a linear arrangement of six postholes aligned north north-west to south south-east over a distance of 13.70m (Fig 7, Sections 119, 124, 131-134, Plate 3). They ranged in depth from 0.05m to 0.21m and were between 0.30m and 0.50m in diameter.

Pottery from the 11th to the 14th centuries was retrieved from the postholes as well as a single iron nail. Posthole alignment [346] may be the eastern wall of a large timber built structure, but is more likely to be a fence line enclosing or partitioning off the industrial activity seen at the north end of the site. This can be seen in comparison with the oven situated within a possible fenced enclosure to the south of plot 4 recorded during the 2003 excavations.

To the west of and slightly obliquely to alignment [346] there was an insubstantial shallow gully [378] which was aligned north-west to south-east. It ended in a rounded terminal and produced no dating evidence.

Other activity included a series of pits and postholes. A grouping of thirteen postholes east of alignment [346] produced a single sherd of 12th-century pottery but formed no discernible pattern. Pit [390] had almost vertical sides and displayed evidence for deliberate backfilling in the form of tip lines. It produced a buckle plate dating to c13th-14th centuries from its upper fill (387). Feature [392] was partially visible at the edge of excavation and was either a shallow pit or the terminal of a ditch. This produced two sherds of Saxon pottery which were thought to be residual due to its stratigraphic position.

### **5.3 Phase 6: Post-medieval and modern activity**

A shallow, slightly irregular linear feature [382] aligned north-west to south-east was cut down from the bottom of the topsoil (300). It was found to contain 19th-century china and roof slate which was not retained. This feature may be a grubbed-out hedgerow or be associated with modern services, which were known to run immediately to the west of the excavation area.

The subsoil (301) ranged in depth from 0.30m to 0.40m and comprised a mid greyish brown sandy silt clay. The topsoil (300) was also between 0.30m and 0.40m in depth and comprised a dark greyish brown sandy silt/clay loam.

## 6 THE FINDS

### 6.1 The medieval pottery by Paul Blinkhorn

The Saxon and medieval pottery assemblage comprised 40 sherds with a total weight of 571g. The range of ware types present suggests that there was activity at the site during the early/middle Saxon period (c AD450 – 850) and also in the late Saxon to Saxo-Norman period (10th–12th centuries), along with two sherds of later medieval material.

#### *Fabric*

Where appropriate, the codings and chronology of the Bedfordshire County Archaeology Service (BCAS) type-series were used. The following wares are not covered by this:

*Early/Middle Anglo-Saxon Handmade wares:* ? c AD450 – 850. Undecorated, handmade wares, in a variety of sandy and/or mineral-tempered fabrics:

F1: Fine, few visible inclusions apart from rare quartz up to 0.5mm, and rare mica up to 1mm. 1 sherd, 7g.

F2: Moderate rounded quartz up to 1mm, sparse mica. 1 sherd, 5g.

F3: Moderate Sandstone up to 2mm, rare calcareous material up to 4mm. 2 sherds, 50g.

The rest of the assemblage is coded according to the BCAS system:

*B01: St Neots Ware* c AD900-1100. 10 sherds, 135g, EVE = 0.32. 17 sherds, 196g.

*B05: Harrold/Olney 'A' ware*, 12th – 14th centuries. 17 sherds, 260g.

*E02: Late medieval Oxidized ware*, mid 14th – 16th centuries. 2 sherds, 53g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1. Each date should be regarded as a *terminus post quem*.

#### **Discussion**

The assemblage is rather small and fragmentary, but suggests that there were probably three phases of activity at the site, the first in the early/middle Saxon period, evidenced by the hand-built wares, the second in the late Saxon to Saxo-Norman period (10th–12th centuries) and a third in the second half of the 14th century.

The assemblage is fairly typical of other sites of the period in the county. The small group of early/middle Saxon hand-built wares are in a range of fabrics which are known from elsewhere, such as Tempsford (Blinkhorn 2005). The group from here comprises entirely

undecorated bodysherds, and it is impossible to date them other than to within the broad early/middle Saxon period (c AD450-850). Generally, the Anglo-Saxons stopped decorating pottery around the end of the 6th century, but as decorated pottery only ever comprised 3-4% of domestic assemblages when it was in use, it is impossible to date an assemblage of this size purely on the absence of decorated wares.

The late Saxon and Saxo-Norman assemblages also very typical of the region, being made up mainly of St. Neots ware and Olney-type Shelly wares. Most of the assemblage consisted of plain bodysherds from jars, although a single large rimsherd from a jar was noted in the latter fabric, as was an inturned rim bowl of the former type.

The two sherds of Oxidized ware comprised an undecorated bodysherd and an handle from a pitcher or cistern.

*Table 1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type*

Context	E/MS F1		E/MS F2		E/MS F3		B01		B05		E02		Date
	No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)	No	Wt (g)	
0									1	97			U/S
300											1	36	Topsoil
301									4	42			Subsoil
309									1	2			12thC?
311							1	4	1	8			12thC
320							1	10	2	22			12thC
326	1	7					10	128	1	24			12thC
333									1	7			12thC
336									1	3			12thC
347							1	11					11thC?
359											1	17	M14thC
369							2	8	1	6			12thC
373									1	3			12thC
391					2	50							E/MS
399			1	5									E/MS
403							2	35	3	46			12thC
Total	1	7	1	5	2	50	17	196	17	260	2	53	

## 6.2 The small finds by Tora Hylton

The excavations at Spring Lane, Yelden produced just two small finds, a copper alloy buckle plate recovered from pit [390] and an iron nail from posthole [360]. The buckle plate has been manufactured from sheet metal; it is rectangular in shape (23 x 11mm) and still retains a vestige of the slot for the pin. The plate is furnished with five perforations, these would have retained rivets for attaching to a strap; the upper surface of the plate is gilded. Buckle plates of this type are medieval and probably date to the c13th-14th centuries.

### **6.3 The slag by Andy Chapman**

A total of 4.12kg of slag was recovered. The major part of this comprised a single oval block, measuring 200 by 150mm, of tap slag recovered *in situ* in the base of a shallow pit (306). An adjacent area of scorched soils, (309) in [310], and the fills of two nearby pits, (311) in [313] and (318) in [319], contained a further 1.51kg of slag. This material included a few small fragments of tap slag but primarily comprised a much lighter, vesicular slag with a glassy surface, although this material also appears to have been derived from tapping an ironworking furnace. A single small lump of roasted ore was also recovered. This material clearly derives from an iron smelting furnace or furnaces, and the area of scorched soils can be presumed to be the location of one of these, for which the superstructure has been lost. The lack of other ironworking debris suggests that this material was either deposited off-site or that surface dumps had been removed by later activity.

A small piece of fuel ash slag, weighing 12g, came from the fill of a pit, (369) in [372].

## **7 FAUNAL AND ENVIRONMENTAL EVIDENCE**

### **7.1 The animal bone by Karen Dieghton**

#### ***Method***

A total of 2.24kg of animal bone were hand recovered from the excavation. This material was scanned to establish the species present and state of preservation. Identifiable and recordable bones were noted. Ageable and measurable bones (after Von Den Driesch) were also noted. Ageable elements included cheek tooth rows, bones where the state of epiphyseal fusion could be determined and neonatal bones. Animal bone recovered from wet sieving (3.4mm and 1mm residues) was also included; sample sizes were 20 and 70 litres. Hand collected bones had previously been washed. Phasing is as follows: Phase 4, late Saxon and medieval ditches; Phase 5, medieval industrial activity; and Phase 6, modern.

## Results

### Preservation

Fragmentation was fairly heavy. Surface condition was good, only a single example of exfoliation was noted. Three examples of canid gnawing were noted. Knife marks were observed on a single bone only, these appeared to be indicative of dismemberment. A single instance of burnt bone was noted.

### Taxonomic distribution

Table 2: Identifiable bones by phase

Phase	Bos (cattle)	Ovicaprid (sheep/goat)	Sus (pig)	L.ungulate	S.ungulate	Small mammal	Total
4	2*	2	2			3+	9
5	5	8	2	5	1		21
6	1		1		1		3
Total	8	10	5	5	2	3	33

\* partial calf skeletons + includes house mouse jaw.

Table 3: Number of ageable and measurable bones by taxa

Taxon	Bos (cattle)	Ovicaprid (sheep/goat)	Sus (pig)
Ageable	5*	2	3
Measurable	0	0	0

\* Includes calves

## Discussion

A small range of common domesticates is present at the site. The lack of larger wild species could suggest there was no reliance on hunting. The identification of house mouse in phase four suggests the presence of commensal rodents. The presence of juvenile animals (ie calves in Phase 4) could suggest on site stock rearing. The lack of fusion in the long bone epiphyses and the unworn nature of the fourth deciduous premolar teeth suggest these animals were under 1 month old.

The largest concentration of bone is from Phase five, as little difference in preservation was noted between phases this could suggest increased activity in this phase although with such a small assemblage this statement is highly conjectural.

The size of the assemblage precludes any comments on the relative number of species or the nature of the animal economy and husbandry at the site. Little can be said beyond pig, cattle and sheep/goat were exploited here.

## **7.2 The charred plant remains** by Karen Deighton

### ***Introduction***

Twelve samples were collected by hand during the course of excavation. Six from Phase 4-Late Saxon and medieval ditches. Six from Phase 5, which is associated with medieval industry at the north end of the site.

### ***Method***

The samples were processed using a siraf tank fitted with a 500micron mesh and flot sieve. The resulting flots were dried and sorted. Any plant remains were identified to species where possible, with the aid of the author's reference collection and seed atlas (Schoch *et al* 1988). Each taxon was counted and the results were tabulated. Relative percentages and densities per litre of soil were calculated. Residues were scanned to check the efficacy of the processing and for the presence of mineralized plant remains.

### ***Results***

#### ***Preservation***

Preservation is by charring. No evidence of waterlogged or mineralised plant remains was noted. Abrasion and fragmentation is at a low level.

#### ***Taxonomic distribution***

See Appendix 3

#### ***Summary of Phase 4: Late Saxon and medieval ditches***

All samples were taken from contexts within ditches. Samples 37-40 are from different sections of the same ditch.

Sample 42 (context 399) was the richest sample with 10.6 items /litre. Sample 37 (context 330) was the poorest sample with 0.35 items /litre.



All the samples from this phase were dominated by cereal grains. A single fragment of chaff (bread wheat) was seen in sample 42 only. The range of cereal varied slightly between samples. Oat was seen in sample 37 only. Rye was noted from samples 41 and 42. Barley was not identified in sample 39 (context 373). Bread wheat was seen in all samples except 37. Spelt was not identified from sample 40. Pulses (including pea) were seen in three samples, as were wild/weed taxa (ie fat hen and cleavers).

Sample 37 probably represents "background", that is the small number of charred seeds with no specific crop related function that are present on many sites. Samples 38-40 are possibly sweepings.

#### *Summary of Phase 5: medieval industrial activity*

Samples were from a ditch, three pits, an area with slag and a layer of scorched, buried soil. Sample 44 (context 326) is the richest sample with 59.1 items /litre soil and sample 33 is the poorest with 0.75 items per litre soil.

All samples are dominated by cereal with wheat and barley the most common. No chaff was observed. Bread wheat and hulled barley are present in all samples. Spelt is absent from samples 33 (context 306) and 34 (context 304). Oat was seen in samples 35 and 44. Rye was seen in sample 44 only. Pulses including peas were observed in 35 and 44. Weeds were seen in samples 33 and 44.

Samples 33 and 34 could represent "background". Samples 35, 36 and 43 could be sweepings or other refuge. Sample 44 could be the result of accidental burning during preparation and subsequent disposal in a ditch.

#### ***Discussion***

The dominance of cereals and paucity of chaff and weeds suggests a late stage in crop processing. This seems unusual for Phase 4, as a period of agricultural activity evidence of early stages would seem more fitting.

Dredge, a mixture of wheat and barley, could be implied by the most common cereals.

Oat could be a wild contaminant. Pulses are nitrogen fixers. These can be grown and stored as a maslin with cereal. The weeds present are all common crop weeds, although dock has medicinal uses, and fat hen seeds can be ground to make flour in times of crop failure/food shortage.

Little difference in composition can be seen between phases apart from minor crops. The same weed species are present. Barley and wheat are the predominant cereals in both phases.

Comparisons with material from Phases 4 and 5 of the previous excavation (Taylor and Yates 2004) show the same dominance of cereal especially bread wheat. Chaff is slightly more common from the earlier excavation. The low frequencies of weeds and pulses are seen at both sites.

Comparisons with sites such as West Cotton, Raunds, Northamptonshire (Campbell 1994), Tempsford, Bedfordshire (Hutchins 1999), and Wing, Buckinghamshire (Carruthers 2003), suggest that the dominance of bread wheat with barley, oats and rye also grown is usual for the periods under consideration. The lack of temporal change between the two periods is also expected. A lack of chaff is also seen at Tempsford, a high status site and therefore most likely a consumer as opposed to a producer. However, a smaller range of weed taxa and a smaller number of individual weed seeds are seen at Yelden than at either Wing or Tempsford.

### ***Conclusion***

The samples appear to represent a late stage in crop processing and to have produced taxa typically grown and utilized as part of the agrarian economy of the Saxon and medieval periods in the region.

## **7.3 The charcoal by Rowena Gale**

### ***Introduction***

The excavation at plot 4 produced a useful assemblage of charcoal dated to Phases 4 (Late Saxon and medieval) and 5 (medieval). Charcoal analysis was undertaken to obtain environmental evidence and to indicate the industrial use of woodland resources. Ten samples of charcoal from linear ditches and iron-working contexts were selected for species identification.

### ***Methodology***

Bulk soil samples were processed by flotation and sieving. The resulting flots and residues were scanned under low magnification and the charcoal separated from plant macrofossils.

Intact segments of narrow roundwood were relatively infrequent. Charcoal fragments measuring >2mm in radial cross-section were considered for species identification.

The condition of the charcoal varied from firm and well-preserved to poor and friable. The samples were prepared using standard methods (Gale and Cutler 2000). The anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (ie heartwood/sapwood).

### **Results**

The taxa identified are presented in Appendix 4. Classification follows that of *Flora Europaea* (Tutin, Heywood *et al* 1964-80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level. These include members of the Pomoideae (*Crataegus*, *Malus*, *Pyrus* and *Sorbus*) and Salicaceae (*Salix* and *Populus*). When a genus is represented by a single species in the British flora, it is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features and exotic species of trees and shrubs were introduced to Britain from an early period (Godwin 1956; Mitchell 1974). The anatomical structure of the charcoal was consistent with the following taxa or groups of taxa:

Aceraceae. *Acer campestre* L., field maple

Caprifoliaceae. *Sambucus nigra* L., elder

Corylaceae. *Corylus avellana* L., hazel

Fagaceae. *Quercus* sp., oak

Oleaceae. *Fraxinus excelsior* L., ash

Rosaceae. Subfamilies:

Pomoideae, which includes *Crataegus* sp., hawthorn; *Malus* sp., apple;

*Pyrus* sp., pear; *Sorbus* spp., rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.

Prunoideae. *Prunus spinosa* L., blackthorn.

Rosoideae. *Rosa* sp., briar, or *Rubus* sp., bramble

Salicaceae. *Salix* sp., willow, and *Populus* sp., poplar. In most respects these taxa are

anatomically similar.

***Late Saxon and medieval period: Phase 4***

The earliest evidence of agricultural land-use, as indicated by ditches and gullies, dated from the Late Saxon period. Charcoal samples 37 (the upper fill) and 38 (the lower fill) were obtained from a linear ditch [332] aligned north-south in the centre of the site. The taxa identified included oak (*Quercus* sp.), willow (*Salix* sp.) or poplar (*Populus* sp.) and cf. blackthorn (*Prunus spinosa*). Charcoal was also obtained from the fills of two adjacent linear ditches/gullies [398] and [400], sited south-west of [332]. Samples 41 and 42 contained small fragments, which consisted mainly of oak (*Quercus* sp.) but also included field maple (*Acer campestre*), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*), the hawthorn/*Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*) and bramble (*Rubus* sp.) or briar (*Rosa* sp.) (see Appendix 4). The origin of the charcoal in these contexts is unknown but seems likely to have been the product of some type of agricultural activity, perhaps from burning hedge trimmings or scrub clearance.

***Medieval Period: Phase 5 (12th century)***

Phase 5 occupation was manifested mainly by a scatter of pits, particularly on the western half of the site, while further north an area was dedicated to iron-working. The remains of furnace [310] was recorded at the edge of the site, marked by scorched soil and pieces of iron slag. Associated charcoal, sample 35, is assumed to be the remains of industrial fuel debris, although pieces of unburnt bone in the same context could imply the dumping of domestic waste. The charcoal contained many fragments measuring up to 10mm in radial cross-section and consisted mainly of oak (*Quercus* sp.) largewood; additional species included field maple (*Acer campestre*) and the hawthorn/*Sorbus* group (Pomoideae). Context (306), a shallow depression in the plough soil [302] which contained iron-smelting slag, was located nearby. Associated charcoal was fairly sparse but included oak (*Quercus* sp.) largewood and ash (*Fraxinus excelsior*).

Three further features in the vicinity seem likely to have been associated with the iron industry, although there was no direct evidence (eg slag) to support this suggestion. These included the shallow pit or depression [305] and pits [325] and [313]. Oak (*Quercus* sp.) charcoal from largewood (samples 34, 36 and 43) was abundant in all three features. Samples 36 and 43 also included small amounts of hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*) and the hawthorn/*Sorbus* group (Pomoideae) (Appendix 4).

Sample 44 from the ditch terminal [327], located west of the iron-working features described above, consisted almost entirely of fragmented narrow roundwood or brushwood, mostly less than 10mm in diameter, from a wide range of taxa including oak (*Quercus* sp.), field maple (*Acer campestre*), blackthorn (*Prunus spinosa*), the hawthorn/*Sorbus* group (Pomoideae), hazel (*Corylus avellana*), willow (*Salix* sp.) or poplar (*Populus* sp.) and elder (*Sambucus nigra*). Although oak heartwood was also recorded, this did not appear to be from largewood. The character of this deposit differed significantly from those associated with iron-working contexts (see above) and is more likely to represent agricultural or domestic activities.

### **Discussion**

Plot 4 was located on silty clay loams adjacent to an area in which previous excavations recorded prehistoric and Roman settlement. The earliest evidence of occupation in Plot 4, however, dated from its agricultural use in the Late Saxon period (Phase 4) and, by the 12th century (Phase 5), iron-working was practiced at the northern end of the site. Charcoal was recovered from Late Saxon and medieval ditches, pits and a medieval ironworking furnace.

Although deposits in ditches appear to have been dumped as waste material, the origin of this material is obscure. The taxa identified from ditches [332], [398] and [400] (Phase 4) and ditch terminal [327] (Phase 5) included a relatively wide range of taxa: oak (*Quercus* sp.), field maple (*Acer campestre*), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*), the hawthorn/*Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*), willow (*Salix* sp.) or poplar (*Populus* sp.), elder (*Sambucus nigra*) and bramble (*Rubus* sp.) or briar (*Rosa* sp.). The high ratio of shrubby species and narrow roundwood, the latter particularly in sample 41, could be interpreted as the remains of burnt brushwood (or faggots). In an agricultural context this reflects the disposal of bonfire debris following hedge-cutting or the felling of scrub growing alongside the ditches. Alternatively, it may derive from dumped domestic hearth debris from settlement areas close to Plot 4.

A group of features, including the remains of an iron-working furnace, was established during Phase 5 at the northern end of Plot 4. Slag was recovered *in situ* in the furnace [310] and in pit [306]. Although there was no artefactual evidence to link pits [305], [311] and [325] with this industrial activity, the proximity of these features to the iron furnace and the similarity of the charcoal deposits to the industrial fuel, suggest a common origin. Oak heartwood was clearly the preferred fuel for iron-working and was obtained from wide roundwood or largewood. This would have been used as charcoal fuel in order to attain the requisite temperatures for

smelting and smithing. The scale of the industry at Spring Lane is unknown and may have been fairly low-key or seasonal.

### ***Environmental evidence***

The site was located on a gentle slope averaging 65m aOD. Underlying soils comprised Oxford Clay and localised patches of sand, whereas silty clay loam formed the topsoil. By the medieval period most viable land in Bedfordshire had been cleared for agriculture and scant woodland remained (Marren 1992). It is probable that woodland around Yelden had already been taken into woodmanship by the Late Saxon period.

Evidence from Late Saxon and medieval deposits at Spring Lane suggest that the landscape supported a fairly wide variety of trees and shrubs (see above), with extant woodland including a high percentage of oak, perhaps mixed with field maple and ash.

Local woodland was capable of supplying enough oak fuel for industrial purposes, most of which appears to have been obtained from largewood, ie from wide roundwood, poles or mature trees. The wood structure indicated moderate growth rates, suggesting that fairly favourable and non-competitive conditions prevailed. Although there was insufficient evidence to indicate the use of coppice oak, given the high consumption rate of wood for charcoal burning (approximately 6-7 units of wood to produce a single unit of charcoal), the provision of oak fuel from coppice grown on a long cycle seems likely.

The shrubby species identified (hazel, the hawthorn group, blackthorn, elder, willow and bramble/ briar) may have grown in woodland margins, as understory or as scrub but probably, more likely, in hedges growing alongside the ditches. Although most of these species thrive when coppiced, none of the roundwood charcoal examined included the fast-growth characteristic of coppiced stems.

### ***Conclusions***

The high ratio of oak (*Quercus* sp.) largewood in late Saxon and medieval contexts suggests the widespread dominance of this taxon in local woodland. Although there was insufficient evidence from the charcoal to substantiate the presence of managed woodland, the existence of such in the agricultural landscape around Yelden seems extremely likely. In addition to oak, the range of trees and shrubs named from the charcoal included field maple (*Acer campestre*), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*), the hawthorn/*Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), willow (*Salix* sp.) or

poplar (*Populus* sp.) and bramble (*Rubus* sp.) or briar (*Rosa* sp.). It is suggested that much of this material may represent trimmings from from hedgerows or scrub.

Spent fuel associated with the medieval iron-working trade demonstrated a preference for mature oak wood. These deposits contrasted with those from Late Saxon and medieval ditch contexts, which usually included a much wider range of species and sometimes consisted of narrow roundwood. Bonfire debris from hedge-cutting, scrub clearance and domestic hearth debris are amongst the suggested origins for this material.

## **8 INTERPRETATION AND DISCUSSION**

The excavations at Plot 4 revealed a two phase sequence of medieval activity comprising agriculture followed by a period of industrial activity. The majority of the dateable features dated to the 12th century with some later material suggesting the final phase of activity came to an end some time in the 14th century.

The absence of Iron Age and Roman material at even background levels suggests that activity during these periods was limited to the area south of Plot 4 (Taylor and Yates 2004). However, a number of Roman features were recorded immediately to the east of the excavation area (BCCAS 1992) which were thought to relate to a Roman villa located 500m to the north-west (HER 340).

Although no Saxon features were identified, the presence of Maxey-type ware from the previous excavation and a small amount of early-middle Saxon pottery would suggest nearby occupation during the 7th-8th centuries. The presence of small quantities of this pottery in the ditches may suggest that some of the boundaries also had a very early origin. However, the pottery may have been residual and the boundary system may have come in later. There is very little late Saxon material from any of the excavations, but the later periods are similarly sparsely represented which makes it difficult to determine the chronology of the ditch systems. The paucity of Saxon material indicates that this area was always marginal to the foci of activity which supports the suggestion that the steep slope bounding Plot 4 to the east represents the boundary of the pre-Domesday settlement (BCAS 1999). Saxon activity was more apparent to the east of this earthwork where the 1992 evaluation (BCCAS 1992) identified ditches, pits and a possible post-built structure dating to the middle Saxon period or later. A substantial early-middle Saxon boundary ditch was also recorded to the south of Plot 4 (Taylor and Yates 2004).

The concentration of Harold/Olney wares in the areas previously excavated (Taylor and Yates 2004), would suggest an expansion of activity between the 12th to mid-13th centuries, which may have included the either the creation or at least the refurbishment of an existing boundary system. It is therefore possible that the entire boundary system was a post-Conquest creation, dating to the 12th century and perhaps part of a planned layout contemporary with the construction and use of the nearby motte and bailey castle (Fig 8), and perhaps also contemporary with the masonry buildings to the east located by trial trenching (BCCAS 1992). Unfortunately, too little dating evidence is available to resolve the problem of the date of origin of the ditched boundaries. It was also during this period that the furnace was in use, perhaps in the backage of the masonry buildings that lay to the east

From the later 13th to the mid 14th centuries there was little activity, perhaps reflecting a decline in the settlement as a whole. This is supported by the fact that the castle is said to have been in ruin by 1360.

In plot 4 there was little evidence for later activity, but the earlier excavations to the north produced mid-14th to late 15th century pottery in some quantity, indicating that by the end of the medieval period there were signs of new growth in parts of the village.



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**APPENDIX 1: Detailed feature descriptions*****Phase 4: Late Saxon and medieval***

<i>Ditches</i>	
Ditch [332]	A linear ditch which was aligned north to south. It ranged in width between 1.19m and was between 0.30m and 0.50m deep. Two of the excavated sections through the ditch [332] and [409] identified two fills. The upper fill comprising a dark greyish brown silty clay loam (330)/(407) and the lower a compact grey sandy silt (331)/(408). A third section at the southern end of the ditch [376] identified similar fills (373) and (374) but with a primary fill of yellowish brown silty clay (373). A single sherd of 12 <sup>th</sup> century pottery was retrieved from this ditch. In profile the ditch had straight sides sloping between 35° and 50° and generally a narrow concave base. The edges of the feature were partially visible in the bases of pits [313] and [319]. Here the ditch appeared to have a slightly steeper profile. It was cut by animal burial [372] and overlain by plough soil (302) at its southern end.
Ditch [398]	Ditch [398] was aligned north-west to south-east. It was 0.50m wide and 0.40m deep. Both sides were straight and steep running to a narrow concave base. Its fill (397) comprised a dark greyish brown silty clay with frequent charcoal flecking and occasional gravel inclusions. No dating evidence was retrieved from this feature. Ditch [398] was cut on its north-east edge by pit [394] and overlain by plough soil (302).
Ditch [400]	Ditch [400] was aligned north-west to south-east. It was 0.60m wide and 0.50m deep. Both sides sloped steeply to a narrow slightly concave base. It was filled by a greyish brown silty clay with frequent charcoal flecking (399) which produced a single sherd of Saxon pottery (intrusive). It was cut on its south-west edge by pit [396] and was overlain by plough soil (302).
Ditch [402]	A linear ditch aligned north-west to south-east. It was only 0.06m deep and 0.40m wide with a gently sloping concave profile. It was filled with a greyish brown silty clay (401) which was identical to the fill of gully [404] making the relationship between these two features undeterminable. It ended in a slightly bulbous terminal just to the north-west of pit [396]. It was overlain by plough soil (302) and produced no dating evidence.
Ditch [404]	A shallow ditch or gully running parallel to ditch/gully [402]. It was 0.10m in depth and 0.40m wide with a gradual concave profile. Its fill (403) comprised a greyish brown silty clay with occasional gravel inclusions. Pottery from the 12th century was collected from this context. Ditch/gully [404] was overlain by plough soil (302).
Gully [406]	A shallow gully 0.07 m deep and 0.40m wide with a steep sided 'bowl'-shaped profile. It ended in a rounded terminal between ditch [400] and gully [402]. The fill, (405) comprised a dark brown silty clay loam which produced no dating evidence.
<i>Pits</i>	
Pit [394]	A sub-oval pit at least 0.70m wide and 0.20m deep. In profile it had steep sloping slightly concave sides to a flat base. The fill (393) comprised a greyish brown silty clay which produced no dating evidence. It was partially overlain by plough soil (302) and cut ditch [398].
Pit [396]	A sub-circular pit obscured in plan by plough soil (303). Its diameter was 0.90m and was 0.26m deep with steeply sloping concave sides to a concave base. The fill (395)

	was greyish brown silty clay which produced no dating evidence.
<b>The Animal Burial</b>	
Animal burial [372]	A sub rectangular cut which was 0.80m long, 0.58m wide and 0.08m deep. The cut contained two neonatal bovid calves (370) and (371) placed back to back and head to tail. The backfill of the grave comprised a dark grey silty clay which produced pottery from the 12th century. [732] was cut into the top of ditch [332].
<b>The Ploughsoil</b>	
Ploughsoil (302)	An intermittent spread of buried soil comprised a dark grey silty loam with slight clay fraction. This deposit was thickest at the north east corner of the area of investigation where it was at least 0.30m deep becoming shallower and patchy to the south. Although no dating evidence was collected from this deposit it had been dated to the Saxo-Norman period during previous excavations.

***Phase 5: Medieval industrial activity***

<b><i>Ditches and Gullies</i></b>	
Ditch [321]	A linear ditch aligned north-west to south east ending in a bulbous terminal [327] to the south east. Straight gently sloping ran to a narrow concave base. It ranged in depth from 0.23m to 0.27m and in width from 0.70m and 0.95m. The fill (320)/(326) a mid brownish grey silty clay loam produced 12th-century pottery and a single sherd of residual Saxon material. Ditch [321] cut plough soil (302) and its terminal [327] cut pit [319].
Gully [378]	An insubstantial linear aligned north-west to south-east almost parallel to post hole alignment [346]. It was between 0.40m and 0.50m wide and ranged in depth from 0.06m to 0.10m. Both sides sloped gently to a broad flat base. The fill (377)/(379) comprised a dark greyish brown silty loam which produced no dating evidence. It ended to the south-east in a rounded terminal [380] and cut plough soil (302).
<b><i>Pits</i></b>	
Pit [305]	A shallow circular pit 0.60m in diameter and 0.05m deep. In profile it had steep sides and a slightly concave base. The fill (304) comprised a dark grey clay loam with up to 50% charcoal content. Pit [305] cut plough soil (302). This pit was recorded as feature [312] during the trial trench evaluation (BCAS 1999) but not excavated.
Pit [308]	A circular pit 0.95m in diameter and 0.19m deep. It had gently sloping edges running to a broad, flat base. The fill (307) comprised a very dark grey silty clay loam with frequent charcoal inclusions and orange burnt clay flecking. Pit [308] cut plough soil (302). This feature had previously excavated during trial trench evaluation (BCAS 1999) and recorded as feature [314]. The in-situ burning described in the evaluation report was not observed during the 2004 excavations.
Pit [313]	An oval pit 1.7m long and 0.16m deep. In profile it had steeply sloping sides to a concave base. Its upper fill (311) comprised a dark grey clay loam with frequent charcoal flecking. Pottery from the 12th century and iron working slag were retrieved from this context. The lower fill (312) comprised almost entirely of charcoal in a dark grey/black clay loam matrix. Pit [313] cut buried soil (302).

Pit [317]/[325]	A straight sided pit with rounded ends 1.83m long, 0.55m wide and 0.17m deep. In profile it had gently sloping straight edges to a broad flat base. The fill (316)/(324) comprised a dark grey silty clay loam with up to 20% charcoal content. Pit [317]/[325] cut the plough soil (302). This feature had been previously been excavated during the trial trench evaluation (BCAS 1999) and recorded as feature [309]. The in-situ burning described in the evaluation report was not observed during the 2004 excavations. If this burning was limited to the central area of the feature it would not have been revealed by the excavated sections of 2004.
Pit [319]	A sub-oval pit 1.25m long, 0.85m wide and 0.15m deep. It had gently sloping sides running to a flat base. The fill (318) comprised a sandy silt clay with a high percentage of charcoal. Pieces of iron working slag were retrieved from this context. Pit [319] cut the plough soil (302) and was cut by the terminal of ditch [327] at its western end.
Pit [329]	A shallow sub-oval pit 1.20m long and 0.07m deep. In profile both edges were concave, sloping gently to a flat base. The fill (328) comprised a dark greyish brown silty clay loam with frequent charcoal flecking. Pit [329] cut plough soil (302).
Pit [390]	A circular pit 1.05m in diameter and 0.38m deep. In profile the edges were steep and straight, vertical in places, running to a flat base. Its upper fill (387) comprised a dark brownish grey silty loam from which a c13th-14th centuries buckle plate was recovered. This overlay (388), a mottled orange and mid-brownish grey sandy silt with patches of redeposited natural. The primary fill (389) comprised a mid brownish grey compact sandy silt. This deposit appeared to slope down from south to north perhaps suggesting intentional backfilling then subsequent silting. Pit [390] cut plough soil (302) and had been previously excavated during the trial trench evaluation and recorded as feature [307].
Pit [392]	Probably a sub-circular pit but as it was only partially exposed by the edge of excavation it is possible that it may have represented the terminal of a linear feature. It was 0.90m wide 0.95m long (partial length) 0.17m deep with gently sloping edges to a concave base. The fill (391) comprised a mid yellowish grey silty clay which produced two sherds of Saxon pottery (thought to be residual given the feature's stratigraphic position). Pit [392] cut plough (302).
<i>The furnace and slag deposit</i>	
Furnace [310]	Cutting plough soil (302) in the north east corner of the excavation area there was a slot shaped pit with straight sides and rounded ends. It was 1.50m long, 0.50m wide, 0.15m deep and aligned north-west to south-east. The edges were straight and vertical running to a base that was almost flat but sloping gently towards the centre. The edges and the base of the feature were scorched hard in places indicating their exposure to extreme heat. This scorching and the proximity of the feature to the insitu deposit of iron working slag and the other charcoal rich Phase 5 pits to the south west would suggest that [310] represents the base of a furnace used for the smelting of iron. The fill (309) comprised a dark grey silty clay loam with frequent charcoal inclusions and occasional pieces of slag.
Slag deposit (306)	To the south-east of furnace [310] there was a dump of iron smelting tap slag which survived insitu within a shallow depression that was 1.05m long, 0.35m wide and 0.05m deep. The depression was probably created by the weight of the deposit rather than being a cut feature. The plough soil (302) beneath the slag was scorched suggesting it was deposited there whilst still hot. Given its proximity to the furnace, (306) is almost certainly waste from the iron smelting activity that was carried out

	there or a now lost adjacent furnace
<i>Postholes</i>	
Alignment [346]	Alignment [346] comprised six post holes [337], [348], [360], [364], [366] and [368]. These were aligned north north-west to south south-east and covered a linear distance of 13.70m. They were generally sub-circular in plan and ranged in diameter from 0.30m to 0.50m and were between 0.05m and 0.21m deep. Their fills were fairly uniform throughout, comprising a dark greyish brown silty loam similar to the plough soil (302) into which the majority of the alignment were cut. Single sherds of 11 <sup>th</sup> , 12 <sup>th</sup> and 14 <sup>th</sup> century pottery were retrieved from postholes [337], [348] and [360] respectively. An iron nail was also retrieved from posthole [360].
Other postholes	To the east of alignment [346] there was a grouping of thirteen postholes [335], [339], [341], [343], [345], [350], [352], [354], [356], [358], [362], [384] and [386]. These were generally sub-circular in plan and were between 0.20m and 0.50m in diameter and ranged in depth from 0.04m to 0.27m. They were filled with a dark greyish brown silty clay loam with occasional incidences of charcoal flecking. A single sherd of 12th century pottery was retrieved from post hole [335]. No discernible pattern could be made from this grouping. Five of the thirteen postholes cut plough soil (302).

***Phase 6: Post medieval and modern activity***

Disturbance [382]	At the western edge of the excavation there was a slightly irregular linear disturbance. This was 5m long, 1.50m wide at its widest point and 0.10m deep. The fill (381) comprised a dark brownish grey silty loam which produced china and modern roof slate. It is likely that this may represent a former hedge line or robbed out wall. Disturbance [382] cut the subsoil (301).
Subsoil (301)	The subsoil comprised a dark greyish brown silty clay with occasional small flint inclusions. It ranged in depth from 0.30m to 0.40m.
Topsoil (300)	The topsoil comprised a dark greyish brown silty clay loam. This was between 0.30m and 0.40m deep

**APPENDIX 2: Index of contexts**

<b>Context No.</b>	<b>Type</b>	<b>Feature Description</b>	<b>Finds</b>
(300)	Topsoil	Dark greyish-brown silty loam. 0.30-0.40m thick	14th-16th century pot
(301)	Subsoil	Mid yellowish-brown sandy/silty clay. 0.30m-0.40m thick	12th-14th century pot
(302)	Buried soil	Dark grey silty clay loam. <0.30m thick	
(303)	Natural	Mottled mid-orange and yellow sandy clay with gravel patches	
(304)	Fill	Dark grey/black clay loam. Abundant charcoal. 0.05m deep. Fill of pit [305]	
[305]	Pit	Circular. 0.60m Ø, 0.05m deep. Cuts buried soil (302)	
(306)	Deposit	Deposit of iron smelting tap slag. 1.05m long, 0.35m wide, 0.05m thick.	
(307)	Fill	Dark grey/black silty clay loam. Frequent charcoal inclusions. 0.19m thick. Fill of pit [308]	
[308]	Pit	Circular. 0.95m Ø, 0.19m deep. Cuts buried soil (302)	
(309)	Fill	Mid/dark grey silty clay. Occasional slag and frequent charcoal inclusions. 0.15m thick. Fill of furnace base [310]	12th century pot
[310]	Furnace	Sub-oval. Aligned NW-SE. 1.50m long, 0.50m wide, 0.15m deep. Cuts buried soil (302)	
(311)	Fill	Dark grey silty clay loam. Frequent charcoal flecking and occasional burnt stone inclusions. 0.10m thick. Upper fill of pit [313]. Overlies (312)	
(312)	Fill	Dark grey/black silty clay loam. Abundant charcoal and occasional burnt flint inclusions. 0.06m thick. Primary fill of pit [313]. Overlain by (311)	
[313]	Pit	Circular. 1.70m Ø, 0.16m deep. Cuts buried soil (302)	
(314)	Fill	Mid grey silty clay. Occasional flint inclusions. 0.30m thick. Fill of ditch [315]	
[315]	Ditch	Linear. Aligned N-S. Not fully excavated as seen at the base of pit [313]. Part of ditch [332]	



(316)	Fill	Dark grey/black silty clay loam. Frequent charcoal flecking and small pieces. 0.15m thick. Same as (324)	
[317]	Pit	Sub-oval. Aligned E-W. 0.55m wide, 1.83m long, 0.15m deep. Same as [325]. Cuts buried soil (302).	
(318)	Fill	Dark grey silty clay. Frequent charcoal flecking. 0.15m deep. Fill of [319]	
[319]	Pit	Sub-oval. Aligned SE-NW. 1.25m long, 0.85m wide, 0.15m deep. Cuts buried soil (302)	
(320)	Fill	Dark grey/brown clay loam. Occasional charcoal flecking. 0.23m thick. Fill of gully [321]	12th century pot
[321]	Gully	Linear. Aligned E-W. 0.70m wide, 0.23m deep. Cuts buried soil (302)	
(322)	Fill	Mid yellowish brown sandy silt. Occasional charcoal flecking. 0.37m thick. Fill of ditch [323].	
[323]	Ditch	Linear. Aligned N-S. 0.37m deep. Not fully excavated as seen at the base of pit [319]. Part of ditch [332]	
(324)	Fill	Dark grey/black clay loam. Frequent charcoal inclusions occasional burnt stone. 0.17m thick. Fill of pit [325]	
[325]	Pit	Sub-oval. Aligned E-W. 0.55m wide, 1.83m long, 0.17m deep.	
(326)	Fill	Mid brownish grey sandy clay loam. Occasional burnt clay, charcoal and stone inclusions. 0.27m thick. Fill of gully terminal [327]	12th century pot. Res. Sax
[327]	Gully	Linear terminal. Aligned E-W. 0.95m wide 0.27m deep. Cuts buried soil (302). Terminal of ditch [321]	
(328)	Fill	Dark greyish brown clay loam. Occasional charcoal flecking. 0.07m deep. Fill of pit [329]	
[329]	Pit	Sub-oval. Aligned NE-SW. 1.20m long, 0.07m deep	
(330)	Fill	Dark greyish brown silty clay loam. Occasional pebble and charcoal inclusions. 0.15m thick. Upper fill of ditch [332]. Overlies (331). Overlain by buried soil (302)	
(331)	Fill	Mid grey compact sandy silt. Occasional charcoal flecking. 0.15m deep. Fill of ditch [332]. Overlain by (330)	
[332]	Ditch	Linear. Aligned N-S. 1.19m wide 0.30m deep.	
(333)	Fill	Mid brownish grey silty clay. 0.25m Ø, 0.17m thick. Possible postpipe within posthole [335]	12th century pot

(334)	Fill	Mottled mid grey and orange silty clay. 0.12m deep. Primary fill of posthole [335]	
[335]	Posthole	Circular. 0.40m Ø, 0.17m deep.	
(336)	Fill	Dark brown sandy loam. Occasional flint inclusions. 0.17m thick. Fill of posthole [337]	12th century pot
[337]	Posthole	Circular. 0.40m Ø, 0.17m deep. Cuts buried soil (302)	
(338)	Fill	Dark brown clay loam. 0.10m thick. Fill of posthole [339]	
[339]	Posthole	Circular. 0.20m Ø, 0.10m deep. Cuts buried soil (302). Part of group [346]	
(340)	Fill	Mid grey sandy loam. 0.04 m thick. Fill of posthole [341]	
[341]	Posthole	Sub-circular. 0.23m Ø, 0.04m deep. Cuts buried soil (302)	
(342)	Fill	Mid grey silty clay. 0.07m thick. Fill of posthole [342]	
[343]	Posthole	Sub-circular. 0.32m Ø, 0.07m deep. Cuts buried soil (302)	
(344)	Fill	Dark brow silty clay. 0.05m thick. Fill of posthole [345]	
[345]	Posthole	Circular. 0.25m Ø, 0.05m deep. Cuts buried soil (302)	
[346]	Group	Group number for posthole alignment comprising [339], [348], [360], [364], [366] and [368]	
(347)	Fill	Dark greyish brown clay loam. 0.21m thick. Fill of posthole [348]	11th century pot
[348]	Posthole	Circular. 0.40m Ø, 0.21m deep. Cuts buried soil (302). Part of group [346]	
(349)	Fill	Dark brownish grey clay silt. 0.19m thick. Fill of posthole [350]	
[350]	Posthole	Sub circular. 0.32m Ø, 0.19m deep. Cuts buried soil (302)	
(351)	Fill	Mid greyish brown sandy silt. 0.10m thick. Fill of posthole [352]	
[352]	Posthole	Circular. 0.25m Ø, 0.10m deep.	
(353)	Fill	Mid brownish grey sandy silt. 0.10m thick. Fill of posthole [354]. Overlain by buried soil (302)	
[354]	Posthole	Oval. 0.50m Ø, 0.10m deep.	
(355)	Fill	Dark greyish brown silty clay loam. 0.10m thick. Fill of posthole [356]. Overlain by buried soil (302)	

[356]	Posthole	Sub circular. 0.20m Ø, 0.10m deep.	
(357)	Fill	Dark brownish grey silty clay loam. 0.27m thick. Fill of posthole [358].	
[358]	Posthole	Sub circular. 0.30m Ø, 0.27m deep. Cuts buried soil (302)	
(359)	Fill	Dark brownish grey silty clay loam. Occasional charcoal flecking. 0.15m thick. Fill of posthole [360].	SF3: Fe nail. 14th century pot
[360]	Posthole	Circular. 0.50m Ø, 0.15m deep. Cuts buried soil (302). Part of group [346]	
(361)	Fill	Dark greyish brown sandy loam. 0.05m thick. Fill of posthole [362]. Overlain by buried soil (302)	
[362]	Posthole	Circular. 0.20m Ø, 0.05m deep.	
(363)	Fill	Dark greyish brown sandy loam. 0.07m thick. Fill of posthole [364]	
[364]	Posthole	Sub circular. 0.35m Ø, 0.07m. Cuts buried soil (302). Part of group [346]	
(365)	Fill	Dark brownish grey sandy clay loam. 0.15m thick. Fill of posthole [365]	
[366]	Posthole	Circular. 0.50m Ø, 0.15m deep. Cuts buried soil (302). Part of group [346]	
(367)	Fill	Dark brownish grey sandy loam. 0.05m thick. Fill of posthole [365]	
[368]	Posthole	Sub circular. 0.30m Ø, 0.05m deep. Part of group [346]	
(369)	Fill	Dark grey silty clay. 0.08m thick. Backfill material overlying animal burials (370) and (371)	12th century pot
(370)	Animal burial	One of two articulated bovid calves within pit cut [372]	
(371)	Animal burial	Second of two articulated bovid calves within pit [372]	
[372]	Pit	Sub rectangular. Aligned NW-SE. 0.80m long, 0.58m wide, 0.08m deep. Pit for animal burials (370) and (371). Cuts ditch fill (330)	
(373)	Fill	Greyish brown silty clay. 0.18m thick. Upper fill of ditch [376]	12th century
(374)	Fill	Dark brownish grey sandy clay. 0.20m thick. Secondary fill of ditch [376]	

(375)	Fill	Mid yellowish brown silty clay. 0.10m thick. Primary fill of ditch [376]	
[376]	Ditch	Linear. Aligned N-S. 0.48m deep. Overlain by buried soil (302). Part of ditch [332]	
(377)	Fill	Dark greyish brown silty loam. 0.06m thick. Fill of gully [378]	
[378]	Gully	Linear. Aligned NW-SE. 0.40m wide, 0.06m deep. Cuts buried soil (302).	
(379)	Fill	Dark greyish brown silty loam. 0.10m thick. Fill of gully terminal [380]	
[380]	Gully	Linear terminal. Aligned NW-SE. 0.50m wide, 0.10m deep. Terminal of gully [378]. Cuts buried soil (302)	
(381)	Fill	Dark brownish grey silty loam. 0.10m thick. Fill of modern disturbance [382]	China, roof slate
[382]	Modern disturbance	Linear/irregular. 0.50m long, 1.50m wide, 0.10m deep. Possible former hedge line. Cuts subsoil (301)	
(383)	Fill	Mid grey sandy clay. Occasional charcoal flecking. 0.04m thick. Fill of posthole [384]	
[384]	Posthole	Circular. 0.26m Ø, 0.04m deep	
(385)	Fill	Mid grey sandy clay. Occasional charcoal flecking. 0.07m deep	
[386]	Posthole	Circular. 0.25m Ø, 0.07m deep. Cuts buried soil (302)	
(387)	Fill	Dark brownish grey sandy loam. 0.08m thick. Upper fill of pit [390].	SF2: Buckle plate
(388)	Fill	Mottled yellowish orange and grey sandy silt with patches of redeposited natural. 0.17m thick. Secondary fill of pit [390]	
(389)	Fill	Mid brownish grey compact sandy silt. 0.15m thick. Primary fill of pit [390]	
[390]	Pit	Circular. 1.05m Ø, 0.38m deep. Cuts buried soil (302)	
(391)	Fill	Mid yellowish grey sandy clay. 0.17m thick. Fill of pit/terminal [392]	E/M Saxon pot
[392]	Pit/terminal	Sub ovular. 0.90m wide, 0.95m long, 0.17m deep. Cut of pit or possible linear terminal partially exposed by edge of excavation. Cuts buried soil (302)	
(393)	Fill	Dark greenish grey silty clay. Occasional charcoal flecking. 0.20m thick. Fill of pit [394]	

[394]	Pit	Circular. 1.10m Ø, 0.20m deep. Cuts ditch fill (397)	
(395)	Fill	Dark greyish brown silty clay. 0.26m thick. Fill of pit [396]	
[396]	Pit	Circular. 0.90m Ø, 0.26m deep. Cuts ditch fill (399)	
(397)	Fill	Dark greenish brown silty clay. Occasional charcoal flecking. 0.40m thick. Fill of gully [398]. Cut by pit [394]	
[398]	Ditch	Linear. Aligned E-W. 0.50m wide, 0.40m deep.	
(399)	Fill	Dark greenish brown silty clay. Occasional charcoal flecking. 0.50m thick. Fill of ditch [400]. Cut by pit [396]	E/M Saxon pot
[400]	Ditch	Linear. Aligned E-W. 0.60m wide, 0.50m deep	
(401)	Fill	Dark greenish brown silty clay. 0.06m thick. Fill of gully [402]	
[402]	Gully	Linear terminal. Aligned NW-SE. 0.40m wide, 0.06m deep.	
(403)	Fill	Dark greenish brown silty clay. 0.10m thick. Overlain by buried soil (302). Fill of gully [404]	12th century pot
[404]	Gully	Linear. Aligned E-W. 0.40m wide, 0.10m deep.	
(405)	Fill	Dark brown clay loam. 0.07m thick. Fill of gully terminal [406]	
[406]	Gully	Linear terminal. Aligned E-W. 0.40m wide, 0.07m deep	
(407)	Fill	Dark greyish brown silty clay loam. Occasional charcoal flecking. 0.15m thick. Overlain by buried soil (302). Upper fill of ditch [409]	
(408)	Fill	Mid greenish grey compact sandy silt. Occasional charcoal and burnt clay flecking. 0.25m deep	
[409]	Ditch	Linear. Aligned N-S. 1.23m wide, 0.40m deep. Part Of ditch [332]	

**APPENDIX 3: Tables of charred plant taxa by context and sample****Phase 4**

Sample	37	38	39	40	41	42
Context	330	331	373	374	397	399
Feature No.	332	332	376	376	398	400
Feature type	D	D	D	D	D	D
Volume (litres)	20	20	20	20	20	20
Cereal						
Bread wheat <i>Triticum aestivum</i>		10	2	2	7	27
Spelt <i>Triticum spelta</i>	3	4	2		9	3
Emmer/spelt <i>T.monococcum/spelta</i>					1	3
c.f. einkorn <i>T.monococcum</i>					1	
Spelt/bread <i>T.spelta/aestivum</i>		1	4	5		6
Hulled barley <i>Hordeum vulgare</i>		2		4	1	7
Naked barley <i>H.vulgare</i>		5		5	2	20
Barley indet <i>H.vulgare</i>				1	10	
Breadwheat/barley <i>T.aestivum/H.vulgare</i>		13				123
Wheat/barley <i>Triticum/Hordeum</i>	4		33	37	71	2
Oat <i>Avena sativum</i>					1	
Rye <i>Secale cereale</i>					3	1
Cereal indet		3	2	2	4	8
<b>Total cereal</b>	<b>7</b>	<b>39</b>	<b>43</b>	<b>56</b>	<b>110</b>	<b>200</b>
Chaff						
Bread wheat <i>T.aestivum</i>						1
<b>Total chaff</b>						1
Pulses						
Pea <i>Pisum sativum</i>					1	
Indet pulse			2	1	4	
<b>Total pulse</b>			<b>2</b>	<b>1</b>	<b>5</b>	
Wild/weed						
Cleavers <i>Galium aparine</i>				1		11
Fat hen <i>Chenopodium album</i>		2				
<b>Total weed</b>		<b>2</b>		<b>1</b>		<b>11</b>
<b>Totals</b>	<b>7</b>	<b>41</b>	<b>45</b>	<b>58</b>	<b>115</b>	<b>212</b>
Percent cereal	100	95	95	96.5	95.6	94.3
Items/litre soil	0.35	2	2.25	2.9	5.75	10.6

Key

Feature Type: D=Ditch

**Phase 5**

<b>Sample</b>	33	34	35	36	43	44
<b>Context</b>	306	304	309	324	311	326
<b>Feature No.</b>	-	305	310			
<b>Feature type</b>	L	P	F	P	P	D
<b>Volume (litres)</b>	20	10	70	20	20	20
<b>Cereal</b>						
Bread wheat <i>Triticum aestivum</i>	2	7	14	1	8	85
Spelt <i>Triticum spelta</i>			4	2	1	33
Emmer/spelt <i>T.monococcum/spelta</i>			2			3
c.f. einkorn <i>T.monococcum</i>			1			3
Spelt/bread <i>T.spelta/aestivum</i>			7			10
Hulled barley <i>Hordeum vulgare</i>	2	1	3	1	2	16
Naked barley <i>H.vulgare</i>		1	6		6	46
Barley indet <i>H.vulgare</i>				2		9
Wheat/barley <i>Triticum/Hordeum</i>	9		63	40	6	670
Oat <i>Avena sativum</i>			1			7
Rye <i>Secale cereale</i>						2
Cereal indet			3	6		220
<b>Total cereal</b>		<b>9</b>	<b>108</b>	<b>53</b>	<b>23</b>	<b>1148</b>
<b>Pulses</b>						
Pea <i>Pisum sativum</i>						9
Indet pulse						6
<b>Total pulse</b>						15
<b>Wild/weed</b>						
Fat hen <i>Chenopodium album</i>	1					3
Dock <i>Rumex</i> sp						1
Indet weed						2
<b>Total weed</b>	<b>1</b>					<b>6</b>
<b>Totals</b>	<b>15</b>	<b>9</b>	<b>109</b>	<b>56</b>		
<b>Percent cereal</b>	<b>93</b>		<b>99</b>	<b>94.6</b>	<b>100</b>	<b>97.1</b>
<b>Items/litre soil</b>	<b>0.75</b>		<b>1.5</b>	<b>2.8</b>	<b>1.15</b>	<b>59.1</b>

**Key**

Feature Type: P=pit, L=layer, F=furnace, D=ditch, e=estimated value for whole sample

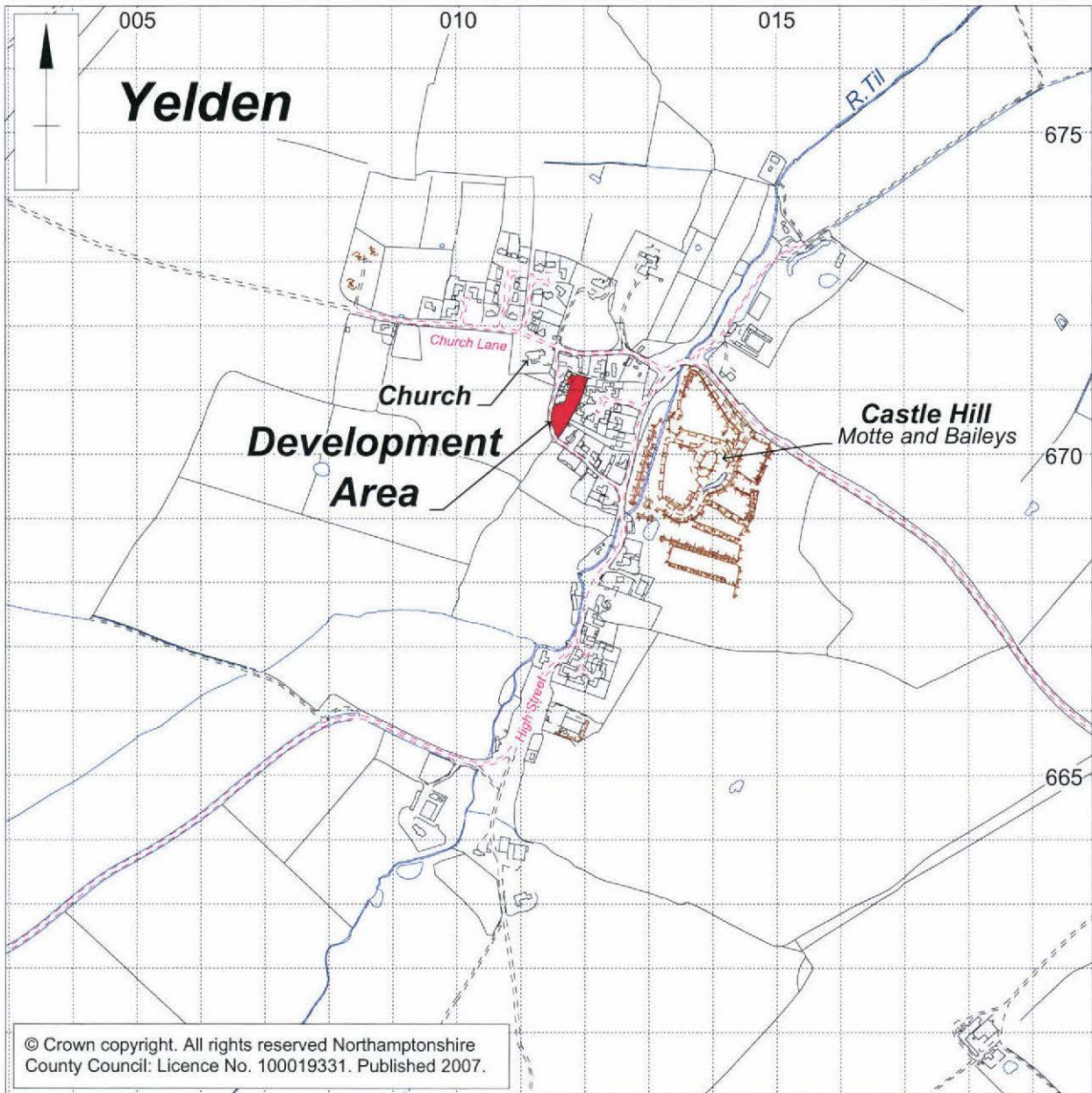
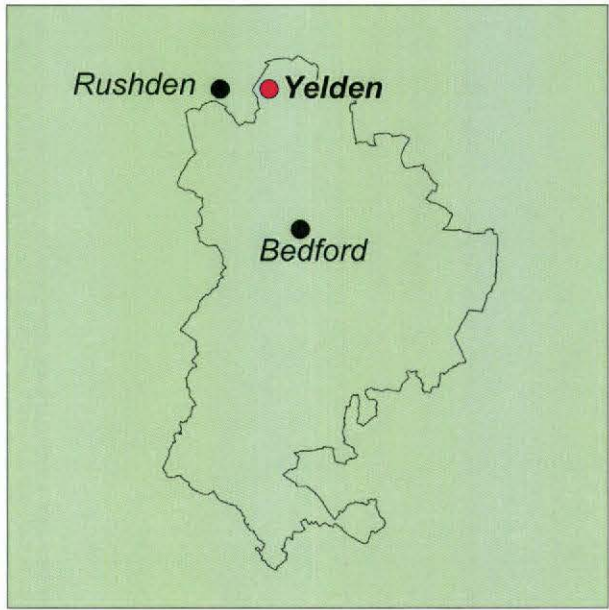
**APPENDIX 4: Table of charcoal by sample and context**

Sample	Context	Description	<i>Acer</i>	<i>Corylus</i>	<i>Fraxinus</i>	<i>Pomoid- eae</i>	<i>Prunus</i>	<i>Quercus</i>	<i>Rosa/ Rubus</i>	<i>Sambucus</i>	<i>Salix/ Populus</i>
<i>Late Saxon and medieval: Phase 4</i>											
37	330	From upper fill of linear ditch [332]	-	-	-	-	-	3h, 2s	-	-	-
38	331	From lower fill of linear ditch [332]	-	-	-	-	cf. 1r	2h	-	-	1
41	397	From fill of linear ditch/ gully [398]	-	cf.2	-	1	-	32h, 1s	1r	-	-
42	399	From fill of linear ditch/ gully [400]	1	7	1r	2	4	21h,3r,1s	-	-	-
<i>Medieval: Phase 5</i>											
33	306	From hollow [302] containing iron slag	-	-	1h	-	-	33h	-	-	-
34	304	From pit [305]	-	-	-	-	-	133h, 5s	-	-	-
35	309	From furnace feature [310] containing slag	1	-	-	3	-	84h, 4s	-	-	-
36	324	From fill of pit [325]	-	1	-	-	2r	143h, 1s	-	-	-
43	311	From upper fill of pit [313]	-	-	-	1	-	61h, 1s	-	-	-
44	326	From fill of terminal ditch [327]	2r	6r	-	37r	2r	6h,10r,3s	-	1r	2r

Key. h = heartwood; r = roundwood (diameter <20mm); s = sapwood (diameter unknown)

The number of fragments identified is indicated



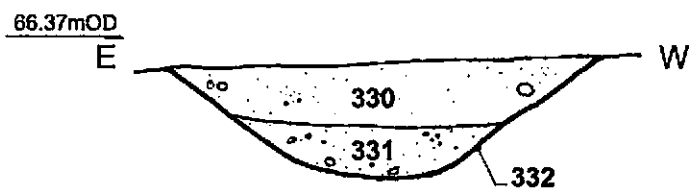


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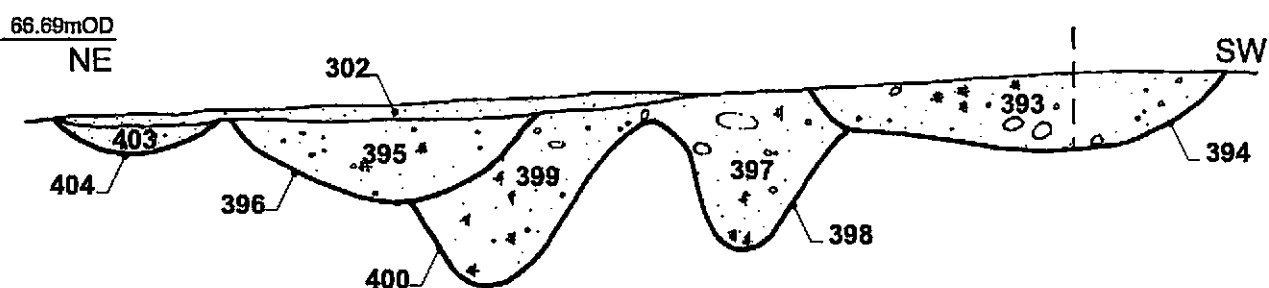
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Site location Fig 1

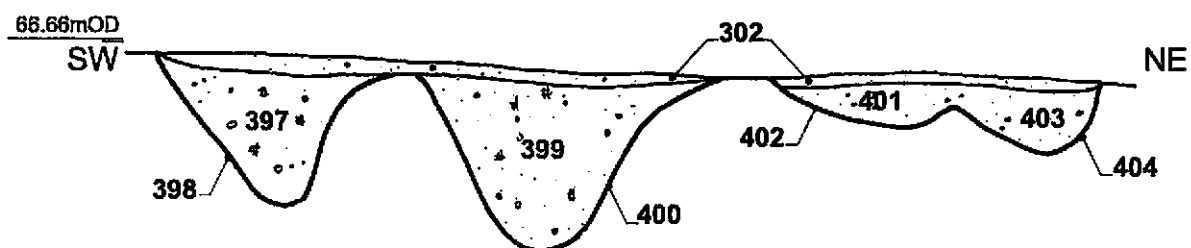
### Section 117



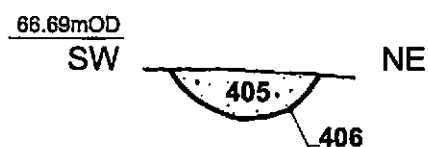
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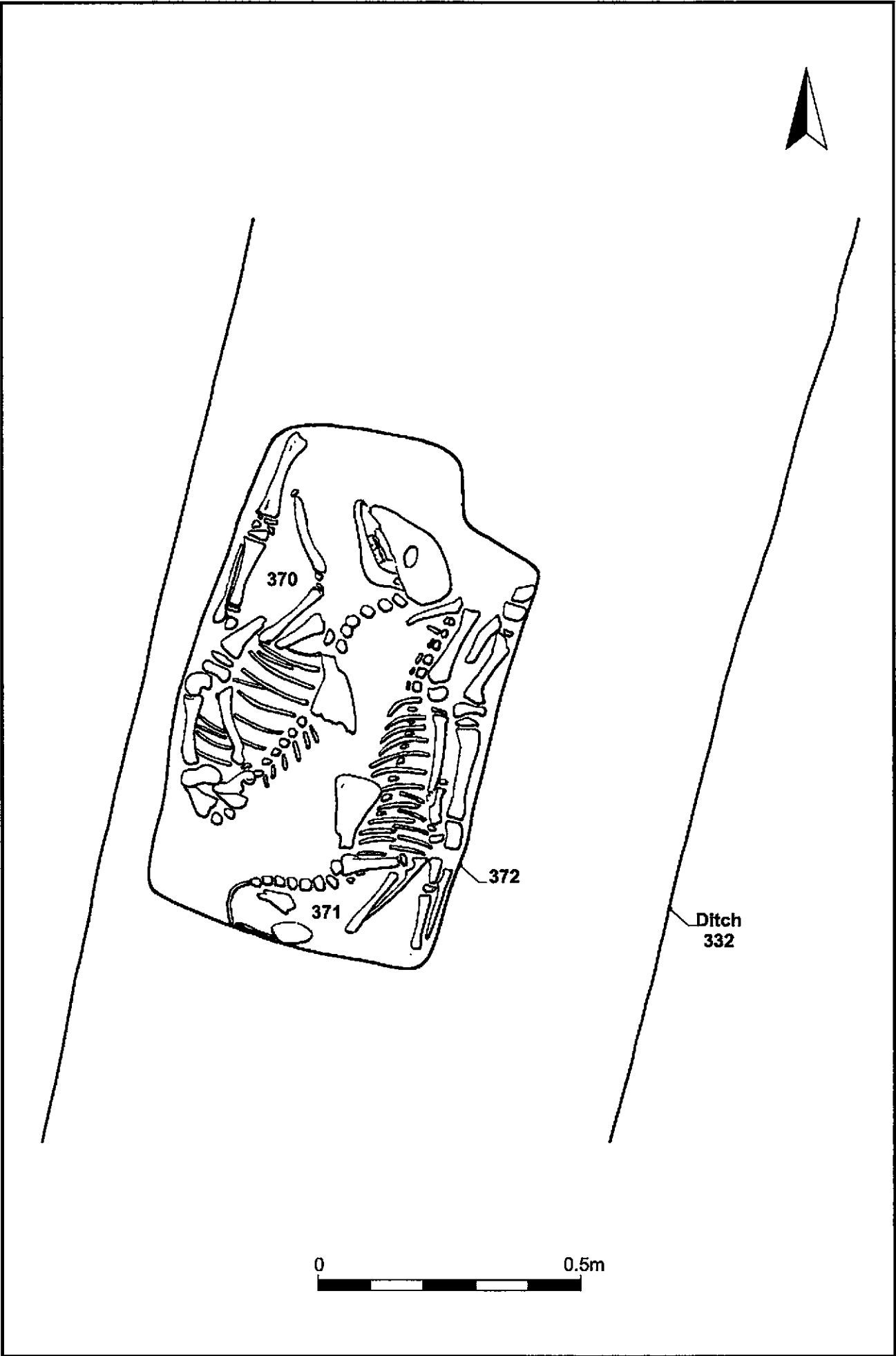
### Section 145



### Section 146



Sections of the late Saxon and medieval ditches Fig 4

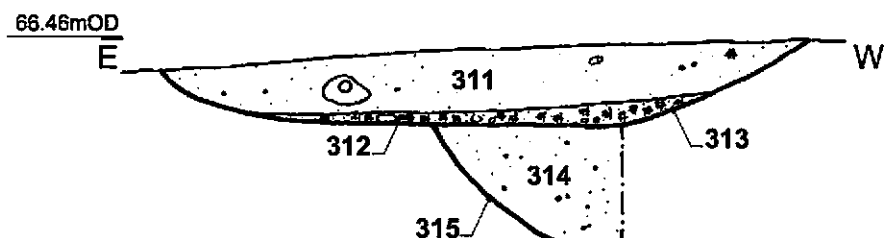


Double animal burial    Fig 5

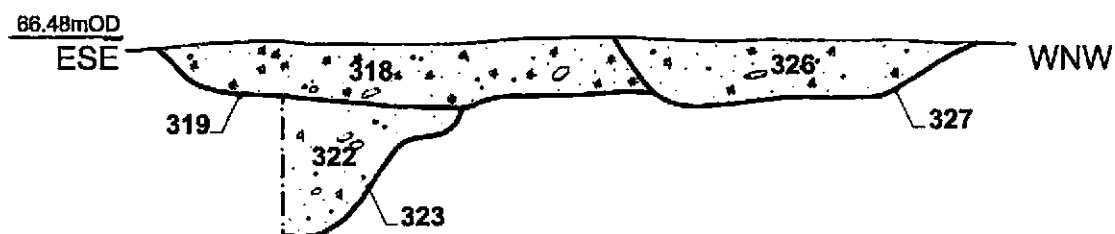
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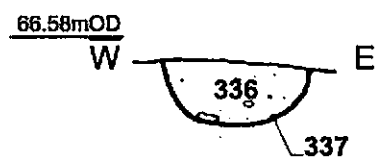
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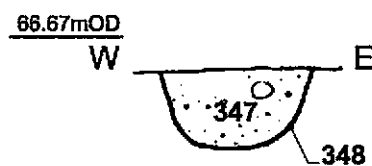
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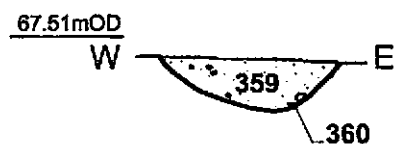
### Section 119



### Section 124



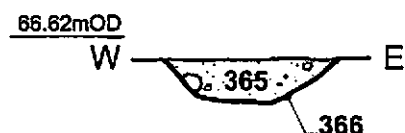
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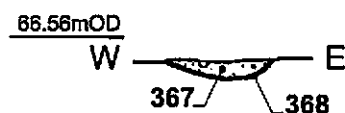
### Section 132



### Section 133

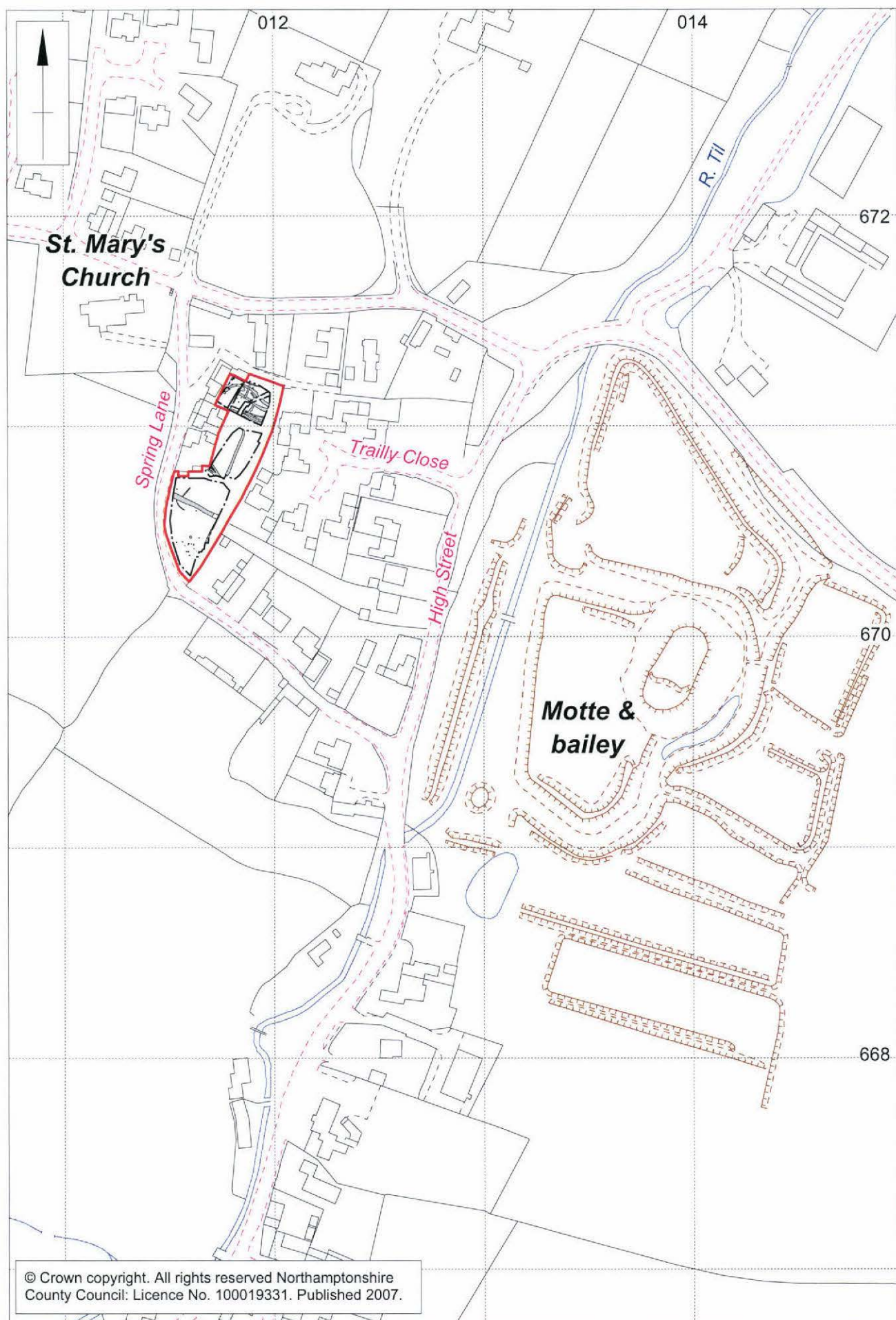


### Section 134



Sections of medieval pits and postholes Fig 7





Late Saxon and Medieval boundary ditches in relation to the church and castle Fig 8  
Scale 1:2500