



# Northamptonshire Archaeology

Archaeological excavation on land  
at Peace Hill, Bugbrooke, Northamptonshire  
December 2012



## Northamptonshire Archaeology

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Northamptonshire  
County Council

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Report 13/16

May 2013





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SITE NAME: Peace Hill, Bugbrooke, Northamptonshire  
NATIONAL GRID REF: SP 7281 7010  
CLIENT: Bellway Homes  
CONTRACTOR: Northamptonshire Archaeology  
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**QUALITY CONTROL**

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**OASIS Report Form**

<b>PROJECT DETAILS</b>		OASIS No: 149451
Project title	Archaeological excavation on land at Peace Hill, Bugbrooke, Northamptonshire	
Short description	Northamptonshire Archaeology was commissioned by Bellway Homes to carry out an archaeological excavation on land at Peace Hill, Bugbrooke, prior to development. The work was carried out in two phases, in December 2012 and January 2013. To the north there were two ditches and a large pit, probably the margins of an area of open settlement, and to the south-east there was a large linear ditch, possibly a boundary system. There was a single sherd of residual middle Bronze Age pottery. All the features produced hand-built pottery which has been dated to the early-middle Iron Age, and a radiocarbon date is centred on 400 cal BC. Earthworks of the medieval ridge and furrow cultivation system survive in part of the area and remnant furrows were seen across the excavated area.	
Project type	Excavation	
Previous work	Geophysical survey, Trial trenching and Earthwork survey	
Future work	unknown	
Monument type and period	Prehistoric features and medieval ridge and furrow earthworks	
<b>PROJECT LOCATION</b>		
County	Northamptonshire	
Site address	Peace Hill, Bugbrooke	
Easting Northing	SP 7281 7010	
Area ha/ sq m	0.25ha	
<b>PROJECT CREATORS</b>		
Organisation	Northamptonshire Archaeology	
Project brief originator	County Archaeological Advisor, NCC	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Christopher Jones	
Project Manager	Adam Yates	
Sponsor or funding body	Bellway Homes	
<b>PROJECT DATE</b>		
Start date	17 December 2012	
End date	14 January 2013	
<b>BIBLIOGRAPHY</b>		
Title	Archaeological Excavation on land at Peace Hill, Bugbrooke, Northamptonshire	
Serial title & volume	Northamptonshire Archaeology report 13/16	
Author(s)	Christopher Jones & Charlotte Walker	
Page numbers	18	
Date	April 2013	

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**ARCHAEOLOGICAL EXCAVATION ON LAND AT  
PEACE HILL, BUGBROOKE  
NORTHAMPTONSHIRE  
DECEMBER 2012**

***Abstract***

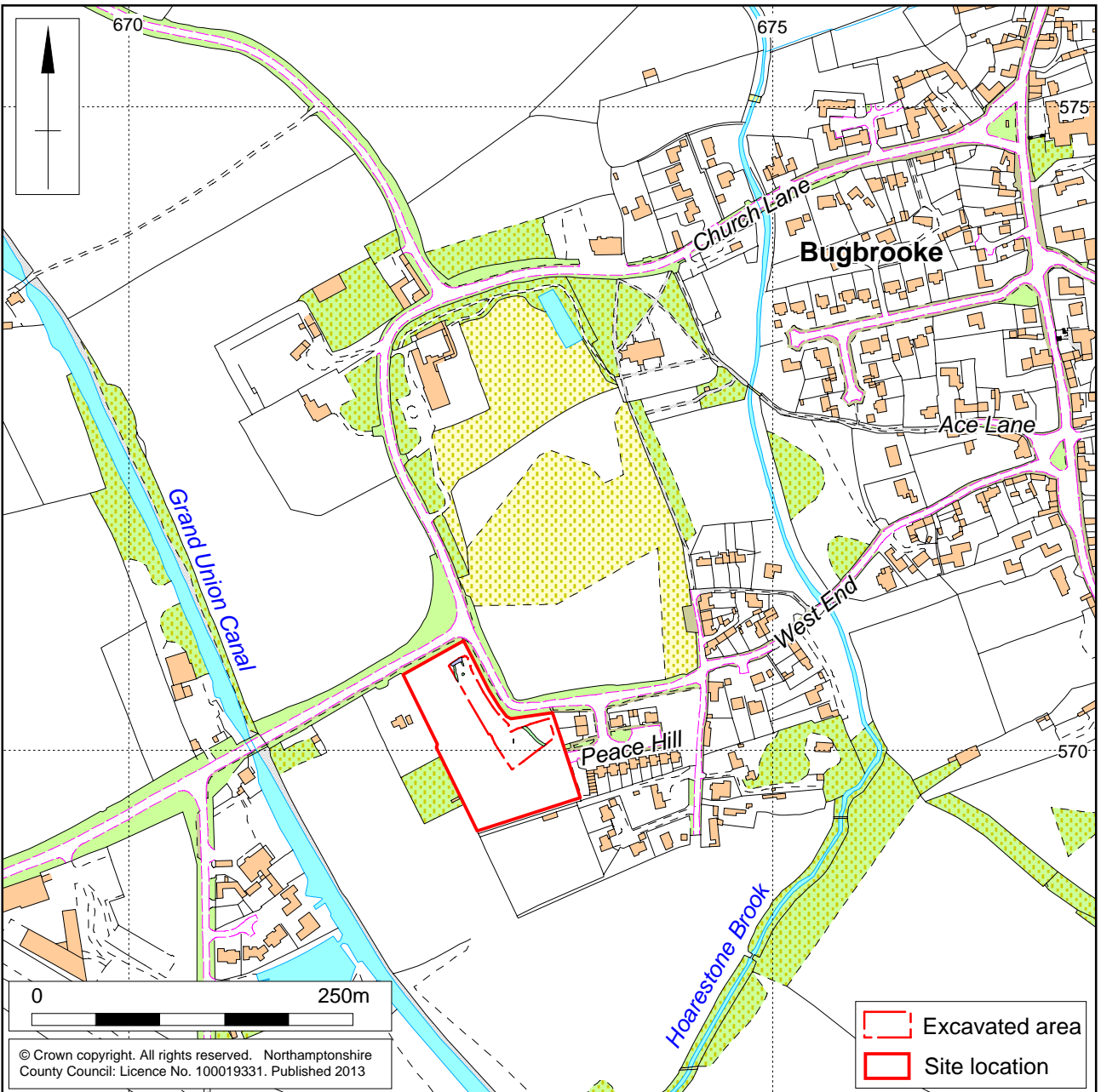
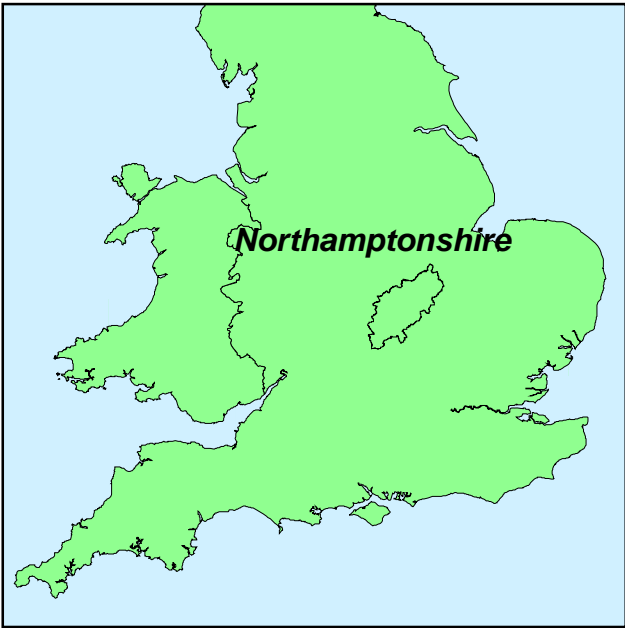
*Northamptonshire Archaeology was commissioned by Bellway Homes to carry out an archaeological excavation on land at Peace Hill, Bugbrooke, prior to development. The work was carried out in two phases, in December 2012 and January 2013. To the north there were two ditches and a large pit, probably the margins of an area of open settlement, and to the south-east there was a large linear ditch, possibly a boundary system. There was a single sherd of residual middle Bronze Age pottery. All the features produced hand-built pottery which has been dated to the early-middle Iron Age, and a radiocarbon date is centred on 400 cal BC. Earthworks of the medieval ridge and furrow cultivation system survive in part of the area and remnant furrows were seen across the excavated area.*

**1 INTRODUCTION**

In December 2012, Bellway Homes commissioned Northamptonshire Archaeology to carry out archaeological excavation on land at Peace Hill, Bugbrooke, Northamptonshire (NGR SP 7281 7010; Fig 1). The works were required to fulfil a condition on planning consent.

A programme of archaeological excavation was implemented to meet the requirements of a brief issued by the County Archaeological Advisor to Northamptonshire County Council (NCC 2012a and b) and the Written Scheme of Investigation prepared by NA (2012). This report considers evidence from the excavation. The work was undertaken in two phases; Phase 1 in December 2012 and Phase 2 in January 2013 (Fig 2).

Northamptonshire Archaeology is an Institute for Archaeologists' (IfA) registered organisation. This document was prepared in accordance with the current best archaeological practice as defined in the Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (IfA 2008) and the procedural document *Management of Research Projects in the Historic Environment (MoRPHE)* (EH 2006).



Scale 1:5000

Site location Fig 1





Scale 1:750

The archaeological investigation area showing geophysical survey results and location of evaluation trenches

Fig 2

## 2 AIMS AND OBJECTIVES

The purpose of the work was to determine and understand the nature, function and character of the archaeological site in its cultural and environmental setting.

The general aims of the investigation were to mitigate the potential impacts from the proposed development of the site through archaeological recording, analysis and dissemination.

Specific objectives of the investigation were to:

- Mitigate the impact of the development on the ridge and furrow through a programme of earthwork survey;
- Refine the date, nature, character and extent of the activity on the development site;
- Examine any evidence for the transition from the Iron Age into Romano-British culture at the site and its impact on the landscape;
- Recover artefacts to assist in the development of type series within the region;
- Recover palaeo-environmental remains to determine past local environmental conditions;
- Create an organised and indexed site archive;
- Understand analysis, interpretation and reporting of the findings from the field work.

## 3 BACKGROUND

### 3.1 Topography and geology

The site is located on the south-western edge of Bugbrooke, overlooking the Hoarestone Brook, which flows northwards to join the River Nene immediately east of Nether Heyford. The Northampton Arm of the Grand Union Canal lies 200m to the west. The site comprises a single pasture field, one hectare in area, at a height of 85-90m aOD (Fig 1). Its northern boundary and part of the eastern edge is defined by roads or by residential areas. To the south and south-west lie fields. Wooden post and metal wire fencing surround the field.

Middle Lias silts and clays underlie the bulk of the site area and Marlstone rockbed outcrops in the north-west corner (BGS <http://www.bgs.ac.uk/GeoIndex/> accessed 27/5/11).

### 3.2 Historical and archaeological background

A Cultural Heritage Assessment has been carried out by Gifford (2009). There are no Scheduled Monuments or listed structures within the proposed survey area. There is currently little evidence of prehistoric or Roman activity recorded in the Historic Environment Record, although this may be a result of a lack of archaeological investigation in the vicinity rather than an absence of activity in these periods.

An undated pit and curvilinear gully have recently been found during trial trench excavation in the centre of the village (Chinnock 2013). The fills of both features were markedly different from the fills of known medieval features. It is possible that they dated to the later prehistoric or Roman period.

The site lies 1km east of the A5, Roman Watling Street. Several finds of probable Roman date have been recorded by the Portable Antiquities Scheme along Ace Lane, to the east of the site ([find.org.uk](http://find.org.uk)). In the wider area, the parish of Bugbrooke is known to be rich in Roman archaeology, attested by the work of the Community Landscape Archaeology Survey Project (CLASP [www.claspweb.org.uk](http://www.claspweb.org.uk) accessed 18/05/11). Geophysical survey of a site c 1km to the south-east has found extensive evidence of occupation, with multiple intercutting ditched enclosures of probable Iron Age or Roman date. Subsequent fieldwalking found large quantities of pottery and other finds. The pottery dated predominantly from the mid-1st to mid-3rd centuries AD, with very little after this date, indicating that the settlement went out of use after this period.

There are medieval ridge and furrow cultivation surviving as earthworks within the application (HER MNN3723; Fig 4). The earthworks survive on a south-west to north-east alignment. Further likely medieval earthworks are known in the area, such as more ridge and furrow to the north and west and a hollow-way to the south-east.

A geophysical survey of the site was carried out in May 2011. The results indicated a positive L-shaped linear anomaly against the eastern boundary of the site (Fig 2). One length was aligned south-east to north-west and perpendicular from its southern end a weaker positive anomaly was aligned north-east to south-west. The ridge and furrow of the medieval field system, which survived as an earthwork, was a dominant feature in the data. A number of ferrous anomalies also occur throughout the area and may indicate scrap or other surface detritus. The wooden post and wire fencing was seen as highly magnetic in the data (Simmonds 2011).

A trial trench evaluation was carried out in October 2012 (Wolfamm-Murray 2012). Seven trenches were excavated, targeting the anomalies. Two linear ditches were found, each containing small amounts of pottery provisionally dated to the middle and late Iron Age. Earthworks of the medieval ridge and furrow cultivation system survive in part of the area and the remnant furrows were seen in all trenches. Residual Iron Age pottery was recovered from the fill of one furrow.

## 4 METHODOLOGY

### ***Earthwork Survey***

The earthwork survey was carried out using a Leica System 1200 dGPS operating to an accuracy of +/- 0.1m. The survey plotted in the tops of ridges and bases of furrows together with any other significant breaks of slope, which were used to generate plans of the surviving earthworks on site. This was supplemented by a series of photographs depicting the remains. The results were plotted onto an Ordnance Survey base map (Fig 16).

### ***Excavation***

The excavation areas were measured in and marked out prior to the commencement of work using Leica System 1200 GPS operating to an accuracy of +/- 0.1m to Ordnance Survey National Grid. The total area comprised 0.25ha, measuring 95m north-south by between 13m and 45m wide (Fig 3). The northern area formed a corridor approximately 20m wide by 70m long. All the features in phase one were located at the north end of the area (Fig 3). The southern area was approximately 25m wide by 40m long (Fig 3).

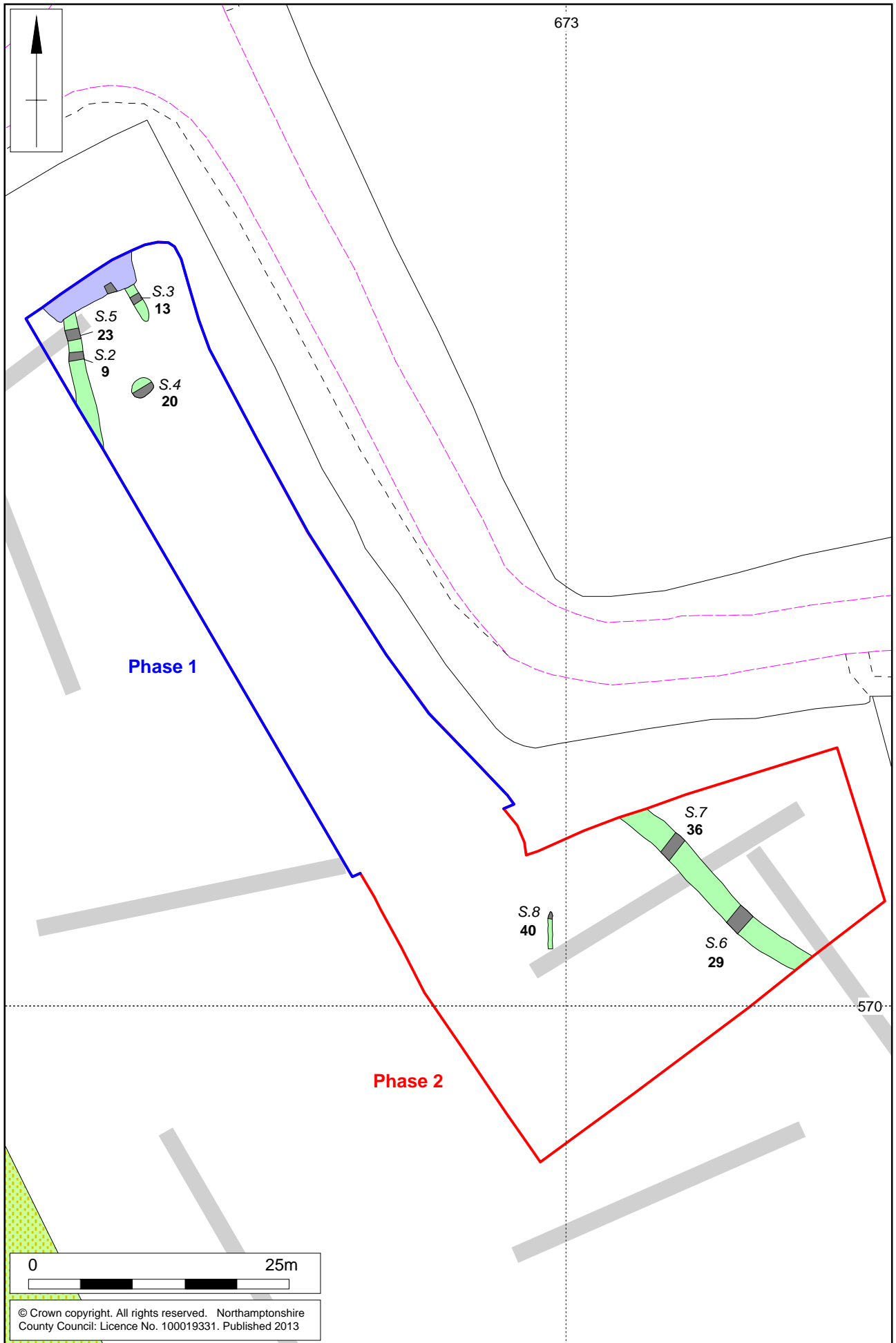
Machine excavation was undertaken under the direction of a suitably experienced archaeologist. The area was excavated by machine using a toothless bucket, to reveal archaeological remains or, where these were absent, undisturbed natural horizons. The spoil heaps and excavated areas were scanned with a metal detector to ensure maximum finds retrieval.

The area was cleaned sufficiently to enhance the definition of features. All archaeological features were investigated. All archaeological deposits and artefacts encountered during the course of excavation were fully recorded. Recording followed standard Northamptonshire Archaeology procedures (NA 2011). All archaeological features were given a separate context number. Deposits were described on pro-forma context sheets to include details of the context, its relationships, interpretation and a checklist of associated finds.

Archaeological features were planned at a scale of 1:50. Sections through features were drawn at a scale of 1:10. All levels were related to Ordnance Datum. A photographic record was maintained using 35mm colour slide and black and white film supplemented by digital photography.

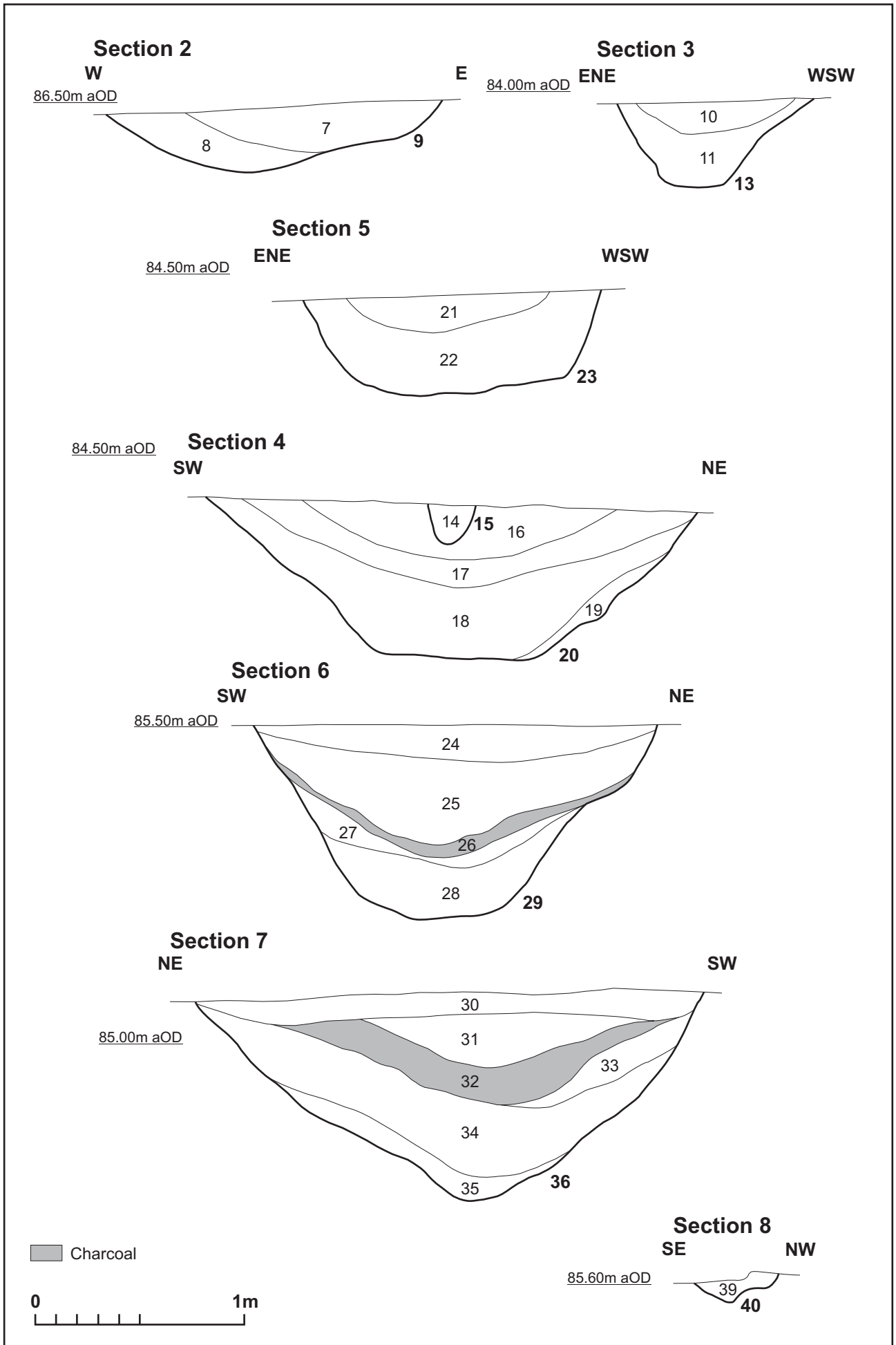
Finds were collected from the individual deposits and appropriately packed and stored in stable conditions, by context. Environmental samples were collected from dated and sealed contexts, collected and stored in sealable buckets. Samples were processed at Northamptonshire Archaeology, using the flotation technique to retrieve seed, charcoal and mollusc remains.

The field data was compiled into a site archive with appropriate cross-referencing. All records were compiled during fieldwork into a comprehensive and fully cross-referenced site archive.



Scale 1:500

The excavated area showing archaeological features Fig 3



Scale 1:25

Sections of excavated features Fig 4

## 5 THE EARLY-MIDDLE IRON AGE ACTIVITY

### 5.1 The early-middle Iron Age ditches and pit

A linear ditch [9]/[23], aligned north-south, was 1.57m wide by 0.30m deep, and continued beyond the excavated area. It contained primary and secondary fills, (8)/(22) and (7)/(21) of mid to light grey-brown silt clay with isolated charcoal fragments; all the fills produced Iron Age pottery (Fig 4, Sections 2 & 5; and Fig 6).



Ditch [9], Section 2, looking south

Fig 6

Ditch [13], aligned north-west by south-east, was 1.0m wide by 0.40m wide and 5m long, terminating to the south. The fills (10), (11), were dark grey to orange-brown silt clay with charcoal flecks, and contained Iron Age pottery (Fig 4, Section 3).

A large circular pit [20] was 2.35m in diameter by 0.75m deep, with steep sides and a narrow concave base. The primary fill (18) was orange-brown silt clay with isolated charcoal flecks, and this was overlain by (17), dark grey clay with small stones and frequent charcoal fragments, with 185g of charcoal recovered from a soil sample. The upper fill (16) was grey-brown clay with occasional charcoal flecks (Fig 4, Section 4 and Fig 7). All fills contained pottery dated to the early-middle Iron Age, and charcoal from fill (17) has given a radiocarbon date centred on 400 Cal BC, the transition from early to middle Iron Age (Table 4: 410-380 Cal BC, 95% confidence, Beta-343606).



Pit [20], Section 4, looking north Fig 7

Ditch [29]/[36], aligned north-west by south-east, was 2.40m wide by 1.0m deep and continued beyond the excavated area. In ditch section [36] there was a primary silt of grey-orange clay (35), overlain by mid brown-grey clay (34). Light brown silt clay (33) slumping on south-west side was overlain by a dumped deposit of dark grey clay (32) containing much charcoal (175g of charcoal was recovered from a bulk soil sample). The upper fill (31) of dark brown-grey clay, containing pottery, was overlain by a subsidence fill of mid grey-brown clay (30) (Fig 4 section 7, Fig 8).

To the south-east, ditch section [29] showed a similar sequence of filling, including a dumped deposit (26), although less substantial (Fig 4, Section 6). The fills produced a quantity of hand-built pottery dated to the early-middle Iron Age.

A short length of gully [40], aligned north-south, was 3.50m long by 0.35m wide and 0.11m deep, with sloping sides and an irregular base with a fill of light brown silt clay. (Fig 4, Section 8). It produced no finds, but is considered to be of recent date.



Ditch [36], looking north-west Fig 8



## 5.2 The prehistoric pottery by Andy Chapman

The three ditches and the pit produced a total of 250 sherds of hand-built prehistoric pottery, weighing 2381g (Table 1). Radiocarbon dating has indicated that the material dates to the early-middle Iron Age, the transition from early to middle Iron Age (Table 4).

### ***Fabrics***

The assemblage has an average sherd weight of 9.5g, which is quite high and reflects the high proportion of sherds in hard-fired sandy fabrics (Fabrics 1-3, 211 sherds, 74.0%), in contrast to the softer shelly fabrics that usually make up a majority of Northamptonshire later prehistoric assemblages.

Fabric 1: Sandy: hard with a coarse surface texture and containing small quartz grains.  
54 sherds (21.6%)

Fabric 2: Sandy with ironstone: same as the sandy fabric but also containing quantities of irregular ironstone grit, 1-6mm diameter.  
125 sherds (46.0%)

Fabric 4: Grog: hard sandy fabric also containing small pellets, 0.25-1.00mm diameter, of red grog.  
17 sherds (6.8%)

Fabric 4: Shelly: softer fabric containing voids probably from leached shell inclusions. The small size, the abraded condition and the loss of most of the shell inclusions indicates that the local soil conditions have not been conducive to the survival of shelly wares.  
64 sherds (25.6%)

A majority of the pottery, 74% by sherd count, is in fabrics that are hard and contain fine sand, with very few evident quartz grains. A proportion of these sherds also contain quantities of irregular ironstone grit in two differing forms. Vessels containing sparser smaller grits, 1-2mm, are typically thin-walled (7mm thick) with smoothed surfaces, orange to red-brown in colour (these also often contain fine mica); and coarser, thick-walled vessels (12mm thick), in a softer fabric with light brown surfaces, and these often contain a proportion of larger pieces of ironstone, up to 5mm. There are also a few vessels containing very small pellets of either grog or a soft red-brown mineral.

Nearly a half of the total of shelly sherds comes from the base of the single large jar in ditch [36]; and the single sherd from a possible residual Deverel-Rimbury jar, also from ditch [36], is also in a shelly fabric; and these two vessels have elevated the apparent representation of this fabric within the assemblage.

The vessels show a wide range of colours, typically having brown to dark grey cores while the surfaces vary from orange-brown, through brown to grey. While colour has not been quantified, the overall visual impression is that browns are in a slight majority which tends to be a characteristic of earlier assemblages.

### ***Forms***

From the upper secondary fill (32) of ditch [36], there is a rim and neck sherd from a large upright jar, in a fabric containing shell, with a brown core and inner surface and a grey outer surface. The body is 9mm thick and the thickened rim or collar is 18mm thick and 30mm high, decorated externally with two parallel, horizontal grooves, and with a slight internal lip. Below the rim there is a pair of vertical applied strips, and it is

likely that further applied strips around the circumference of the vessel would have defined a series of vertical panels (Fig 9). The form of decoration suggests that this sherd is from a Deverel-Rimbury jar of the middle Bronze Age, probably residual in its context, perhaps as a result of disturbance of an earlier feature.



Rim sherd from a possible Deverel-Rimbury jar (Scale 20mm) Fig 9

The two sections across ditch [9]/[23] produced a small assemblage, 14 sherds, weighing 101g. The primary fill (8) of ditch [9] and the upper fill (21) of ditch [23] both contained neck and rim sherds from small thin-walled vessels, with bodies 6-7mm thick, with long necks (25mm and 35mm), and simple rounded and slightly everted rims (Fig 10).



Rim sherds from thin-walled, long-necked vessels from ditch [9], left, and ditch [23], right (Scale 20mm) Fig 10

The upper fill (10) of ditch [13] produced a small group that included joining sherds from the neck and rim of a large vessel, perhaps an open bowl form. The body was probably near vertical and the flaring neck is 65mm long, and the thickened, flat-topped rim is 16mm thick, with a rim diameter of c 350mm (Fig 11).



The neck and rim of a large jar or bowl from ditch [13] (Scale 20mm) Fig 11

Pit [20] produced 56 sherds, weighing 460g. The lower fills (17 & 18) produced small quantities of pottery in the same range of fabrics as the larger group from the upper fill (16). Fill (17) also produced small fragments of fired clay, weighing 25g, recovered from a bulk soil sample. There are sherds from the flat base and body of a small jar, with a base diameter of 70mm (Fig 12). The body is plain and there is a pronounced rounded shoulder at height of 65mm: the jar probably stood only around 140-150mm high. A little below the shoulder there is an oblique break along an original join between separate slabs of clay (Fig 12, right).



The base and body of a small shouldered jar from pit [20], left, with an oblique slab join, right (Scale 20mm) Fig 12

There are neck and rim sherds from two vessels with rounded shoulders and long necks, one measuring 42mm from shoulder to rim, with rim diameters of around 200-

250mm (Fig 13). In both instances the neck is thinner than the body, suggesting that it had been drawn up during manufacturing.



Long-necked jars from pit [20] (Scale 20mm)

Fig 13

The two sections across ditch [29/36] produced the largest assemblage, 160 sherds, weighing 1575g. The primary fill (28) of ditch [29] produced a jar with an upright neck, 20mm high, with a smoothed surface decorated with oblique scoring. (Fig 14, left). The secondary fill (25) contained a shouldered jar, with fingertip impressions along the shoulder, a long concave neck, 33mm high, and a simple rounded rim (Fig 14, right). The secondary and upper fills (34, 32 and 31) of ditch [36] produced a quantity of pottery in the same fabrics and forms as seen in ditch [29], but with fewer partial profiles surviving. Fill (32) also produced a few small pieces of fired clay, weighing 5g, recovered from a bulk soil sample. Much of the large group of pottery from fill (34) came from the flat base, 150mm diameter, and lower body of a thick-walled vessel (12mm thick, base 15mm thick), full of voids from leached dense large shell inclusions. This is one of the few large storage jars, in a shelly fabric, the vessel form that tends to dominate middle Iron Age assemblages. At the other extreme, this fill also produced a few sherds from a well-made vessel with thin walls, up to 7mm thick.



Long-necked jars from ditch [29], with oblique scoring on the body, right, and shallow fingertip impressions around the shoulder, left (Scale 1:20) (Fig 14)

### Chronology

Within the assemblage there is a single vessel that stands apart from the rest: the jar with a thickened rim decorated with two horizontal grooves set above a pair of vertical applied strips on the body (Fig 9). This is probably a Deverel-Rimbury vessel of the middle Bronze Age, and therefore residual within ditch [36].

The small assemblage from the trial trench, 67 sherds (weighing 618g), had contained few diagnostic sherds by form or decoration, but from the presence of two sherds containing grog it had been tentatively suggested that the assemblage might date to the late Iron Age, the 1st century BC, as grog is not a common inclusion in middle Iron Age assemblages in Northamptonshire.

The large assemblage from the excavation has produced several upper body, neck and rim profiles, and these consistently have pronounced shoulders and long necks, which are characteristic of earlier assemblages. Middle Iron Age fabrics in Northamptonshire are also dominated by shelly wares, whereas in this group the majority of the vessels are in hard sandy fabrics, with a proportion also containing irregular pieces of ironstone and a few small pellets of grog.

The radiocarbon date on wood charcoal from pit [20] indicates that the assemblage falls at the transition from the early to middle Iron Age, at around 400 Cal BC (Table 4: 410-380 Cal BC, 95% confidence, Beta-343606). This accounts for the absence of well developed carinated bowls, sometimes with zigzag decoration and often in black, highly-burnished fabrics, which occur in early Iron Age assemblages, and may also explain the presence of just a single scored ware sherd, which is so characteristic of middle Iron Age assemblages. This radiocarbon date, associated with an assemblage containing consistent traits of fabric and form, helps to address the issue of Iron Age ceramic chronologies, as highlighted in the Updated Research Agenda for the East Midlands (Knight *et al* 2012, 58-59).

Table 1: Quantification of Iron Age pottery

Fill/ Feature	Fabric 1 Sandy & ironstone (sherds)	Fabric 2 Sandy (sherds)	Fabric 3 Sandy & grog (sherds)	Fabric 4 Shelly (sherds)	Total sherds	Weight (g)
7/Ditch 9	1	0	0	0	1	4
8/Ditch 9	0	0	1	3	4	13
21/Ditch 23	0	2	3	2	7	80
22/Ditch 23	0	1	0	1	2	4
10/Ditch 13	0	9	4	1	14	215
16/Pit 20	12	18	2	3	35	345
17/Pit 20	2	0	0	2	4	40
18/Pit 20	13	4	0	0	17	75
25/Ditch 29	3	2	0	9	14	210
28/Ditch 29	2	0	0	5	7	55
31/Ditch 36	6	36	4	1	47	320
32/Ditch 36	14	39	0	9	62	580
34/Ditch 36	1	4	3	28	36	440
<b>Total</b>	<b>54</b>	<b>115</b>	<b>17</b>	<b>64</b>	<b>250</b>	<b>2381</b>
<b>%</b>	<b>21.6</b>	<b>46.0</b>	<b>6.8</b>	<b>25.6</b>		<b>Ave 9.5g</b>

### 5.3 Charred plant remains by Val Fryer

The mitigation works recorded a limited number of features of probable early-middle Iron Age date. Two samples for the retrieval of the plant macrofossil assemblages were taken; one from fill (17) of pit [20] (Sample 1) and one from fill (32) of ditch fill [36] (Sample 2).

The samples were bulk floated by Northamptonshire Archaeology and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed in Table 2. Identifications were made by comparison with modern reference specimens, and nomenclature within the table follows Stace (1997) for the plant macrofossils and Kerney and Cameron (1979) and Macan (1977) for the mollusc shells. All plant remains were charred. Both assemblages also contained modern fibrous roots, fungal sclerotia, seeds and arthropod remains.

#### Results

Both assemblages were very small (<0.1 litres in volume) and largely composed of modern roots. However, Sample 1 did contain a small number of burnt shells of terrestrial and marsh/freshwater slum molluscs including *Carychium* sp., *Vertigo* sp. and *Lymnaea* sp.. Burnt ostracods were also noted. Plant macrofossils were scarce, but did include a low density of small and abraded charcoal/charred wood fragments and a single seed of fat hen (*Chenopodium album*). Sample 2 contained a moderate density of charcoal/charred wood, but little else.

Table 2: Quantification of charred plant remains

Sample No	1	2
Context No	017	032
Feature type	Pit	Ditch
<b>Plant macrofossils</b>		
<i>Chenopodium album</i> L.	x	-
Charcoal <2mm	x	xxx
Charcoal >2mm	x	x
Charred root/stem		x
Indet.seed	x	-
<b>Other remains</b>		
Ostracods	xb	
<b>Mollusc shells</b>		
<b>Terrestrial species</b>		
<i>Carychium</i> sp.	x xb	-
<i>Vallonia</i> sp.	xcf	x
<i>Vertigo</i> sp.	xb	-
<b>Marsh/freshwater slum species</b>		
<i>Lymnaea</i> sp.	xb	-
<b>Sample volume (litres)</b>	<b>40</b>	<b>40</b>
<b>Volume of flot (litres)</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
<b>% flot sorted</b>	<b>100%</b>	<b>100%</b>

#### Key to Table

x = 1 – 10 specimens    xxx = 51 – 100 specimens    b = burnt    cf = compare

### Conclusions

Both assemblages would appear to be principally derived from very low densities of scattered or wind-dispersed detritus, much of which was probably accidentally incorporated within the fills of the feature. Although little can be said about the material within Sample 2, the assemblage from Sample 1 is potentially of note as it appears to indicate that materials from a wetland context (possibly peat or plants used as litter, bedding or thatch), along with their attendant molluscs, were being burnt in the near vicinity.

These results are broadly consistent with those obtained from an earlier phase of work at Bugbrooke (Fryer 2012), where the recovered assemblages from the same ditch systems, parts of ditches [29/36] and [9/23], were possibly derived from midden waste or hearth debris.

#### 5.4 Wood charcoal by Dana Challoner

Samples were taken from fill (17) of pit [20] and fill (32) of ditch [36]. Abundant charcoal was preserved with some large fragments (>10mm), but the condition of the charcoal was relatively poor, with a thick layer of sediment covering the anatomical structure and requiring every piece to be fractured.

The charcoal was identified, by fracturing and sorting into groups based on the anatomical features observed in transverse section at x7 to x45 magnifications. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope at up to x400 magnification. Identifications were made with reference to Schweingruber (1990), Hather (2000) and modern reference material. Classification and nomenclature follow Stace (1997).

### Results

The results are given by fragment count in Table 3. Seven taxa were positively identified; *Quercus* sp. (oak), *Corylus avellana* (hazel), *Populus/Salix* (poplar/willow), *Prunus spinosa* type (blackthorn), Maloideae (hawthorn, apple, pear, service etc.), *Ilex aquifolium* (holly) and *Acer campestre* (field maple). The *Prunus* exhibited large rays, consistent with *P. spinosa* (blackthorn) but the condition was not ideal to be certain of the distinction from other *Prunus* species. Some fragments showed evidence of faint to moderate ring curvature (roundwood) but there were no complete stems or strong curvature observed. It was not possible to determine if the oak derived from heartwood or sapwood.

Table 3: Results of the charcoal analysis by fragment count

Context	17/ pit 20	32, ditch 36
Sample no	1	2
Species (common name)		
<i>Quercus</i> sp. (oak)	25 (3r)	33 (3r)
<i>Corylus avellana</i> L.(hazel)	9	
<i>Alnus/Corylus</i> (alder/hazel)	4	
<i>Populus/Salix</i> (poplar/willow)		1
<i>Prunus</i> cf. <i>spinosa</i> L.(blackthorn)	4 (1r)	3 (3r)
Maloideae (hawthorn group)	8 (4r)	9 (2r)
<i>Ilex aquifolium</i> L. (holly)		2
<i>Acer campestre</i> L. (field maple)		2
<b>Total</b>	<b>50</b>	<b>50</b>

**Discussion**

The samples produced similar assemblages, with large quantities of oak, but also a range of other taxa. Trunkwood and/or large branchwood had been utilised for fuel, rather than small branches or kindling type material. In general terms, a preference for oak with a variety of other available woods is consistent with gathering practices for domestic fires in the Bronze Age or Iron Age periods and there is nothing to suggest a more focused selection of fuelwood for a specific activity. Most of the species would happily occur in or on the margins of oak woodland, or in a hedgerow type habitat. Poplar and willow prefer wet ground and are often found in riverside environments.

**5.5 Radiocarbon dating**

A sample of wood charcoal from pit [20] was submitted for radiocarbon dating (Table 4), and has given a date of 410-380 Cal BC (95% confidence).

*Table 4: The radiocarbon determination*

Laboratory & Sample No.	Context	Sample Details	C13/ C12	Conventional Radiocarbon Age BP	Cal BC Intercept 68% confidence <b>95% confidence</b>
Beta-343606 BPLM12-17	Upper secondary pit [20]	Wood Charcoal (mixed)	-24.0	2330+/-30	400 400-390 <b>410-380</b>

Laboratory: Beta Analytic, Miami, Florida, USA

Analysis: Standard AMS, Calibration: INTCAL09 Radiocarbon Age Calibration



## 6 THE MEDIEVAL CULTIVATION REMAINS

The open fields of Bugbrooke were enclosed by an Act of Parliament of 1779 and the ridge and furrow earthworks within the site are the remnants of the open field methods of agriculture. The open fields were largely hedge-less, but were subdivided into narrow strips called lands, in turn grouped into blocks called furlongs. The lands became ridged due to the ploughing method; the furrow acted as an open drain and as a clear demarcation between lands.

The earthworks within the development area were surveyed prior to any ground disturbance taking place (Figs 15-17). The ridge and furrow earthworks were all aligned north-east to south-west, but did not extend into the eastern portion of the field. Aerial photographs indicate that no ridge and furrow earthworks were present in this part of the field from at least 1945. It is not known whether this indicates the original end of the furlong or whether is as a result of later arable cultivation levelling the earthworks.

The surviving earthworks were c 0.40m high (from the base of the furrow to the top of the ridge) and were on average 8m wide (from ridge top to ridge top).

Two broad, linear hollows were present in the northern and eastern corners of the field. The ridge and furrow earthworks appeared to respect the alignment of the northern hollow, although whether this indicates that the hollow was a later feature which had truncated them or whether they were contemporary features is not known. It is possible both features may have been tracks or hollow-ways.

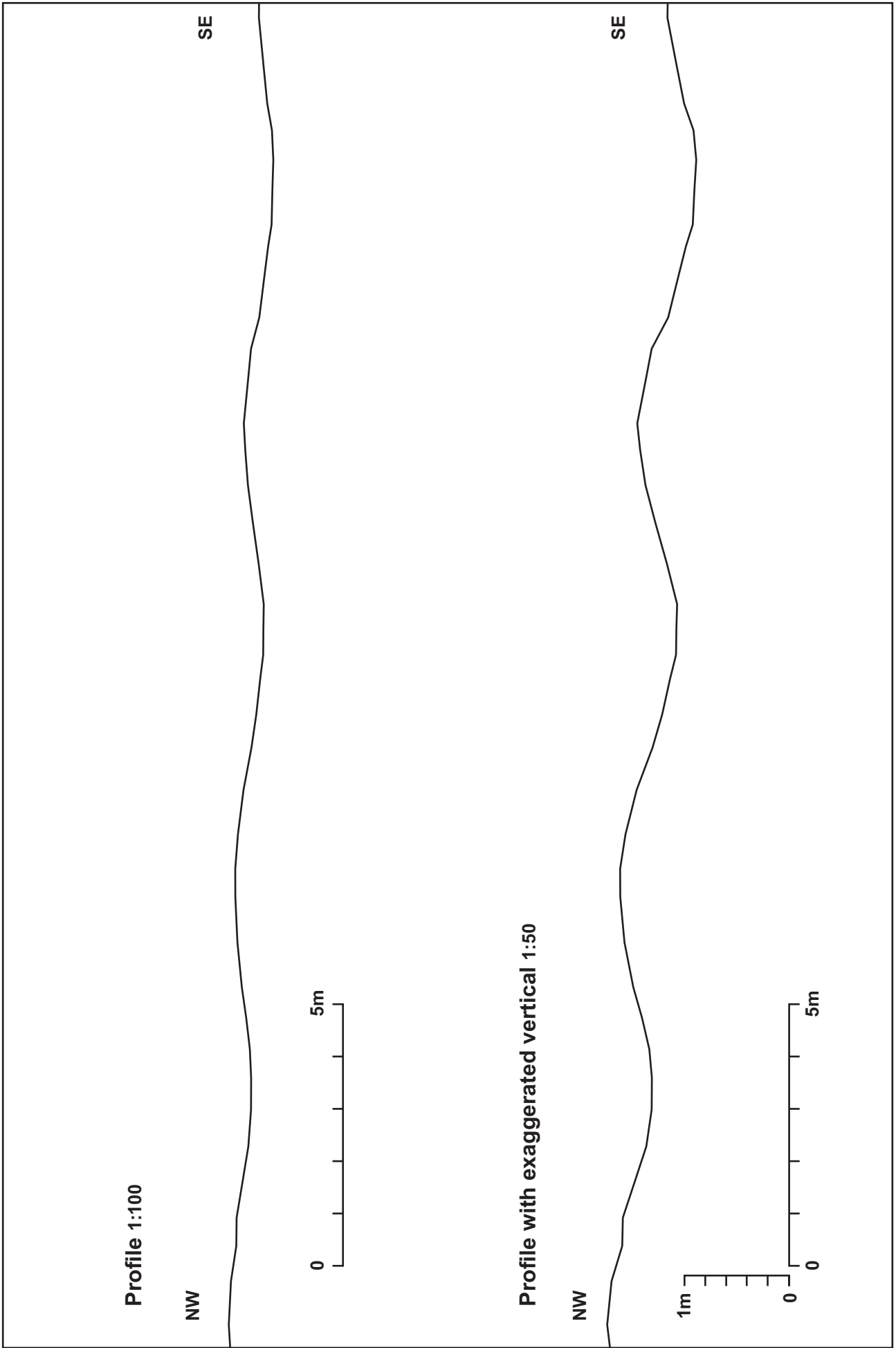


The ridge and furrow earthworks, looking west Fig 15



Scale 1:750

Survey of the earthworks Fig 16



Ridge and furrow profile Fig 17

## 7 DISCUSSION

Only a small number of archaeological features were located, with a cluster of two ditches and a pit to the north and a linear ditch system to the south. These features all produced hand-built pottery containing a high proportion of long-necked jars, which are considered to be a feature of assemblages dating to the early to early-middle Iron Age. The early dating has been confirmed by a radiocarbon date that places the activity at the transition from the early to middle Iron Age, centred on 400 Cal BC (410-380 Cal BC, 95% confidence, Beta-343606).

The nature of the settlement is unclear, given so few features, but they are most similar to early Iron Age settlements, which typically comprise unbounded scatters of shallow pits and postholes, and here some shallower features had perhaps been lost to the medieval ridge and furrow cultivation. There is no indication that the ditch systems formed parts of a larger enclosure system, as seen with many middle Iron Age settlements. The linear ditch to the south may perhaps be best seen as part of the linear boundary ditch system, while those to the north, in the vicinity of the pit, may have formed parts of the settlement focus.

Given the absence of features in the western part of the development site, as indicated by the trial trenching, it is likely that the features identified lie on the western margins of a more extensive area of settlement. It is also possible that undated features found at Ace Lane, 550m to the east, are related to early settlement in the area.

There is limited evidence for the palaeo-ecology of the site, with no animal bone surviving and only a few charred plant remains recovered. However, the presence of potential thatching or bedding material and possible hearth debris implies the presence of buildings in the vicinity. The mixed species represented in wood charcoals indicate that oak woodland lay nearby, while the nearest source for the poplar and willow may have been either the nearby stream margins or the floodplain of the River Nene, only 1.5km to the north.

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### **Websites**

CLASP [www.claspweb.org.uk](http://www.claspweb.org.uk)  
BGS <http://www.bgs.ac.uk/GeoIndex/>



## APPENDIX 1: CONTEXT INVENTORY

## PHASE 1

<b>Context</b>	<b>Context type</b>	<b>Description</b>	<b>Dimensions</b>	<b>Artefacts/ Samples</b>
1	Topsoil	Mid grey-brown loam with occasional small stone inclusions	0.28m thick	
2	Subsoil	Mid orange-brown silty clay with occasional small rounded pebbles	0.61m thick	—
3	Natural	Light yellow-orange sandy clay with frequent small to large stone inclusions		—
4	Fill of [6]	Mid grey-brown clay, charcoal flecks and roots	0.72m wide 0.07m deep	—
5	Fill of [6]	Mid orange-brown clay	0.68m wide 0.21m deep	Post-medieval pottery
6	Cut of ditch	E-W, with flat base	0.72m wide 0.28m deep	Post-medieval ditch
7	Fill of [9]	Light-brown clay with frequent small stone	1.21m wide 0.17m deep	Early-middle IA pottery, flint
8	Fill of [9]	Mid grey silt clay, charcoal flecks	0.96m wide 0.26m deep	Early-middle IA pottery
9	Cut of ditch	N-S, U-shaped	1.57m wide 0.30m deep	—
10	Fill of [13]	Dark grey gritty clay, frequent charcoal flecks	1.00m wide 0.20m deep	Early-middle IA pottery
11	Fill of [13]	Mid brown silt clay, isolated small stone	1.00m wide 0.20m deep	—
12	NOT USED	—	—	—
13	Cut of ditch	NW-SE, U-shaped	1.0m wide 0.40m deep	—
14	Fill of [15]	Light brown clay	0.20m wide 0.20m deep	—
15	Cut of gully	NW-SE, U-shaped gully	0.20m wide 0.20m deep	—
16	Fill of [20]	Grey-brown gritty clay, occasional charcoal flecks. Small stones	1.50m wide, 0.25m deep	Early-middle IA pottery
17	Fill of [20]	Dark grey silt clay, small stones, frequent charcoal flecks	2.10m wide 0.15m deep	Early-middle IA pottery, flint. Small find (1). Sample (1).
18	Fill of [20]	Mid grey-brown clay. Small stones, charcoal flecks	2.30m wide 0.30m deep	Early-middle IA pottery
19	Fill of [20]	Mid dark grey silt clay, occasional charcoal flecks	0.10m deep	—
20	Cut of pit	Circular, steep sides to narrow concave base	2.35m wide 0.75m deep	Early-middle IA pottery
21	Fill of [23]	Dark grey sandy clay, charcoal flecks	0.96m wide 0.20m deep	Early-middle IA pottery

22	Fill of [23]	Mid brown silt clay, occasional charcoal flecks	1.42m wide 0.53m deep	Early-middle IA pottery
23	Cut of ditch	N-S, U-shaped, flat base	1.42m wide 0.53mn deep	—

**PHASE 2**

<b>Context</b>	<b>Context type</b>	<b>Description</b>	<b>Dimensions</b>	<b>Artefacts /Samples</b>
24	Fill of [29]	Dark brown silt clay, small stones	1.90m wide 0.28m deep	—
25	Fill of [29]	Dark grey clay, occasional charcoal flecks	1.80m wide 0.40m deep	Early-middle IA pottery
26	Fill of [29]	Dark grey-black clay, charcoal flecks	1.70m wide 0.05m deep	Early-middle IA pottery
27	Fill of [29]	Mid brown clay, small stones, charcoal flecks	1.20m wide 0.10m deep	—
28	Fill of [29]	Mid grey-orange silt clay, charcoal flecks	1.10m wide 0.30m deep	Early-middle IA pottery
29	Cut of ditch, same as [36]	NW-SE, with flat base	1.95m wide 0.93m deep	—
30	Fill of [36]	Dark brown silt clay, small stones	2.40m wide 0.10m deep	—
31	Fill of [36]	Dark brown clay, moderate charcoal flecks	1.30m wide 0.25m deep	Early-middle IA pottery
32	Fill of [36]	Dark grey-black clay, charcoal flecks	1.70m wide 0.16m deep	Early-middle IA and MBA pottery. Sample (2)
33	Fill of [36]	Light orange-brown clay, occasional charcoal flecks	0.70m wide 0.15m deep	—
34	Fill of [36]	Mid brown-grey silt clay, moderate charcoal flecks	2.22m wide 0.35m deep	Early-middle IA pottery, animal bone
35	Fill of [36]	Mottled orange-grey silt clay, small stones, charcoal flecks	1.30m wide 0.12m deep	—
36	Cut of ditch, same as [29]	NW-SE, with flat base	2.40m wide 1.00m deep	—
37	Fill of [38]	Light brown silt clay	0.31m wide 0.02m deep	—
38	Cut of gully same as [40]	N-S, with irregular base	0.31m wide 0.02m deep	Modern gully/drain
39	Fill of [40]	Light brown silt clay	0.40m wide 0.10m deep	—
40	Cut of gully same as [38]	N-S, with irregular base	0.40m wide 0.10m deep	Modern gully/drain







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