

**Geophysical survey and trial trench evaluation
on land north of Harrington Road
Rothwell
Northamptonshire
December 2014**

Report No. 15/87

Author: Chris Chinnock

Illustrator: James Ladocha



**Geophysical survey and trial trench evaluation
on land north of Harrington Road
Rothwell
Northamptonshire
December 2014**

Report No. 15/87

Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	[20.05.15]	Pat Chapman	Adam Yates	Andy Chapman	Draft for client review

Author: Chris Chinnock

Illustrator: James Ladocha

© MOLA Northampton 2015

MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
sparry@mola.org.uk

STAFF

Project Manager: Jim Brown BSc PGDip MCIfA

Text: Chris Chinnock BA MSc PCIfA

Fieldwork: Chris Chinnock

Ian Fisher BSc

Olly Dindol BSc

Adam Reid BSc MSc

Piotr Kieca MA

Tom Revell BA

Chris Pennell BA

Laura Cogley BA

Geophysical survey results: Olly Dindol BSc

John Walford BSc MSc

Pottery - Iron Age: Andy Chapman BSc MCIfA FSA

Pottery - Roman and post-medieval: Tora Hylton

Animal bone: Adam Reid BSc MSc

Charred plant macrofossils and other remains: Val Fryer BA MCIfA

Other finds: Tora Hylton

Illustrations: James Ladocha BA

Olly Dindol BSc

OASIS REPORT FORM

PROJECT DETAILS		OASIS No: molarnort1 - 211431	
Project name	Geophysical survey and trial trench evaluation on land north of Harrington Road, Rothwell, Northamptonshire		
Short description (250 words maximum)	MOLA Northampton was commissioned by Persimmon Homes Midlands to carry out a geophysical survey and archaeological trial trench evaluation on land north of Harrington Road, Rothwell, Northamptonshire prior to proposed residential development of the site. A total of 6.4ha was surveyed and thirteen trenches were excavated. A series of ditches, identified in the geophysical survey as being part of several large enclosures, have been dated, from the ceramic evidence, to the 1st century BC to the 1st century AD. An undated trackway was aligned north-east to south-west across the middle of the site. Undated quarrying was recorded at the eastern edge of the development area. Evidence for medieval ridge and furrow cultivation was present across the site and further post-medieval activity was identified at the southern edge of the area.		
Project type (eg DBA, evaluation etc)	Evaluation		
Site status (none, NT, SAM etc)	None		
Previous work (SMR numbers etc)	None		
Current Land use	Arable		
Future work (yes, no, unknown)	Unknown		
Monument type/ period	Iron Age/Roman period settlement		
Significant finds (artefact type and period)	1st century BC to 1st century AD pottery assemblages		
PROJECT LOCATION			
County	Northamptonshire		
Site address (including postcode)	Land north of Harrington Road, Rothwell, Northamptonshire		
Study area (sq.m or ha)	c. 6.4ha		
OS Easting & Northing (use grid sq. letter code)	SP 80653 80817		
Height OD	Approx. 105-110m above Ordnance Datum		
PROJECT CREATORS			
Organisation	MOLA Northampton		
Project brief originator	County Archaeological Advisor NCC		
Project Design originator	MOLA Northampton		
Director/Supervisor	Chris Chinnock		
Project Manager	Jim Brown		
Sponsor or funding body	Persimmon Homes Midlands		
PROJECT DATE			
Start date/End date	15/12/2014 - 18/12/2014		
ARCHIVES	Location (Accession no.)	Content (eg pottery, animal bone etc)	
Physical	MOLA Northampton: ENN107881/882	Pottery animal bone and other finds	
Paper	MOLA Northampton: ENN107881/882	Site file	
Digital	MOLA Northampton: ENN107881/882	Mapinfo plans, Word report	
BIBLIOGRAPHY			
Journal/monograph, published or forthcoming, or unpublished client report (MOLA report)			
Title	Geophysical survey and trial trench evaluation on land north of Harrington Road, Northamptonshire, December 2014		
Serial title & volume	15/87		
Author(s)	Chris Chinnock		
Page numbers			
Date	20.05.15		

Contents

1	INTRODUCTION	
2	AIMS AND OBJECTIVES	
3	BACKGROUND	
	3.1	Topography and geology
	3.2	Historical and archaeological background
4	METHODOLOGY	
	4.1	Geophysical survey
	4.2	Trial Trenching
5	GEOPHYSICAL SURVEY RESULTS	by Olly Dindol and John Walford
6	THE EXCAVATED EVIDENCE	
	6.1	General Stratigraphy
	6.2	Trenches 1, 5, 6, 9, 11 and 12
	6.3	Trench 2
	6.4	Trench 3
	6.5	Trench 4
	6.6	Trench 7
	6.7	Trench 8
	6.8	Trench 10
	6.9	Trench 13
7	THE FINDS	
	7.1	The late Iron Age and early Roman pottery by Andy Chapman
	7.2	The Roman, medieval and post-medieval pottery by Tora Hylton
	7.3	Other finds by Tora Hylton
	7.4	Slag by Andy Chapman
	7.5	Animal bone by Adam Reid
	7.6	Charred plant macrofossils and other remains by Val Fryer
8	DISCUSSION	
	BIBLIOGRAPHY	
	APPENDIX A: CONTEXT INVENTORY	
	APPENDIX B: CATALOGUE OF CHARRED PLANT MACROFOSSILS AND OTHER REMAINS	

Tables

Table 1:	Pottery quantification by fabric type (no. of sherds)
Table 2:	Quantification of Roman, medieval and post-Roman pottery
Table 3:	Quantification of animal bone assemblage by species/type

Figures

Front cover:	Geophysical survey results
Fig 1:	Site location
Fig 2:	Trench locations and geophysical survey results
Fig 3:	The site, general view overlooking the valley, looking south
Fig 4:	Geo-rectified aerial photographs
Fig 5:	Historic Environment Record data
Fig 6:	Trench 2, trackway 206, looking south-east
Fig 7:	Trench 7, ditch 706, looking north-west
Fig 8:	Trench 7, ditch 715 and furrow 708, looking south-east
Fig 9:	Trench 10, ditch 1005, looking south-east
Fig 10:	Trench 13, feature 1305, looking north-west
Fig 11:	Trenches 2, 3, 4, 7, 10 and 13
Fig 12:	Sections of features in Trenches 2, 4, 5 and 7
Fig 13:	Sections of features in Trenches 7, 10, 11 and 13
Fig 14:	Vertical lug from ditch 407
Fig 15:	Open bowl with T-shaped rim from ditch 407
Fig 16:	Irregularly scored jar from ditch 715
Fig 17:	Sherds of comb-scored ware from ditch 715
Fig 18:	Horizontal lug/handle from ditch 715
Fig 19:	Irregular sherds of probable briguetage
Fig 20:	Channel-rim jar and large storage jar from ditch 1005
Fig 21:	Trench 1, general view, looking north-west
Fig 22:	Trench 2, general view, looking north-west
Fig 23:	Trench 3, general view, looking south-west
Fig 24:	Trench 4, general view, looking north-west
Fig 25:	Trench 5, general view, looking south-west
Fig 26:	Trench 6, general view, looking north
Fig 27:	Trench 7, general view, looking north-east
Fig 28:	Trench 8, general view, looking north-west
Fig 29:	Trench 9, general view, looking south-east
Fig 30:	Trench 10, general view, looking north-east
Fig 31:	Trench 11, general view, looking south-west
Fig 32:	Trench 12, general view, looking east
Fig 33:	Trench 13, general view, looking south-west
Fig 34:	Magnetometer survey data
Fig 35:	Magnetometer survey interpretation
Fig 36:	Unprocessed magnetometer data
Back cover:	Trench 9 backfilled, looking south-east

Geophysical survey and trial trench evaluation on land north of Harrington Road Rothwell, Northamptonshire December 2014

Abstract

MOLA Northampton was commissioned by Persimmon Homes Midlands to carry out a geophysical survey and archaeological trial trench evaluation on land north of Harrington Road, Rothwell, Northamptonshire prior to proposed residential development of the site. A total of 6.4ha was surveyed and thirteen trenches were excavated. A series of ditches, identified in the geophysical survey as being part of several large enclosures, were present in the northern half of the field. The activity in this area has been dated, by the pottery, to the late Iron Age (1st century BC to the mid-1st century AD). An undated trackway was aligned north-east to south-west across the middle of the site. Undated quarrying was recorded at the eastern edge of the development area. Evidence for medieval ridge and furrow cultivation was present across the site and further post-medieval activity was identified at the southern edge of the area.

1 INTRODUCTION

MOLA Northampton was commissioned by Persimmon Homes Midlands to carry out an archaeological geophysical survey and trial trench evaluation of c6.4ha of land north of Harrington Road, Rothwell, Northamptonshire (NGR SP 80653 80817).

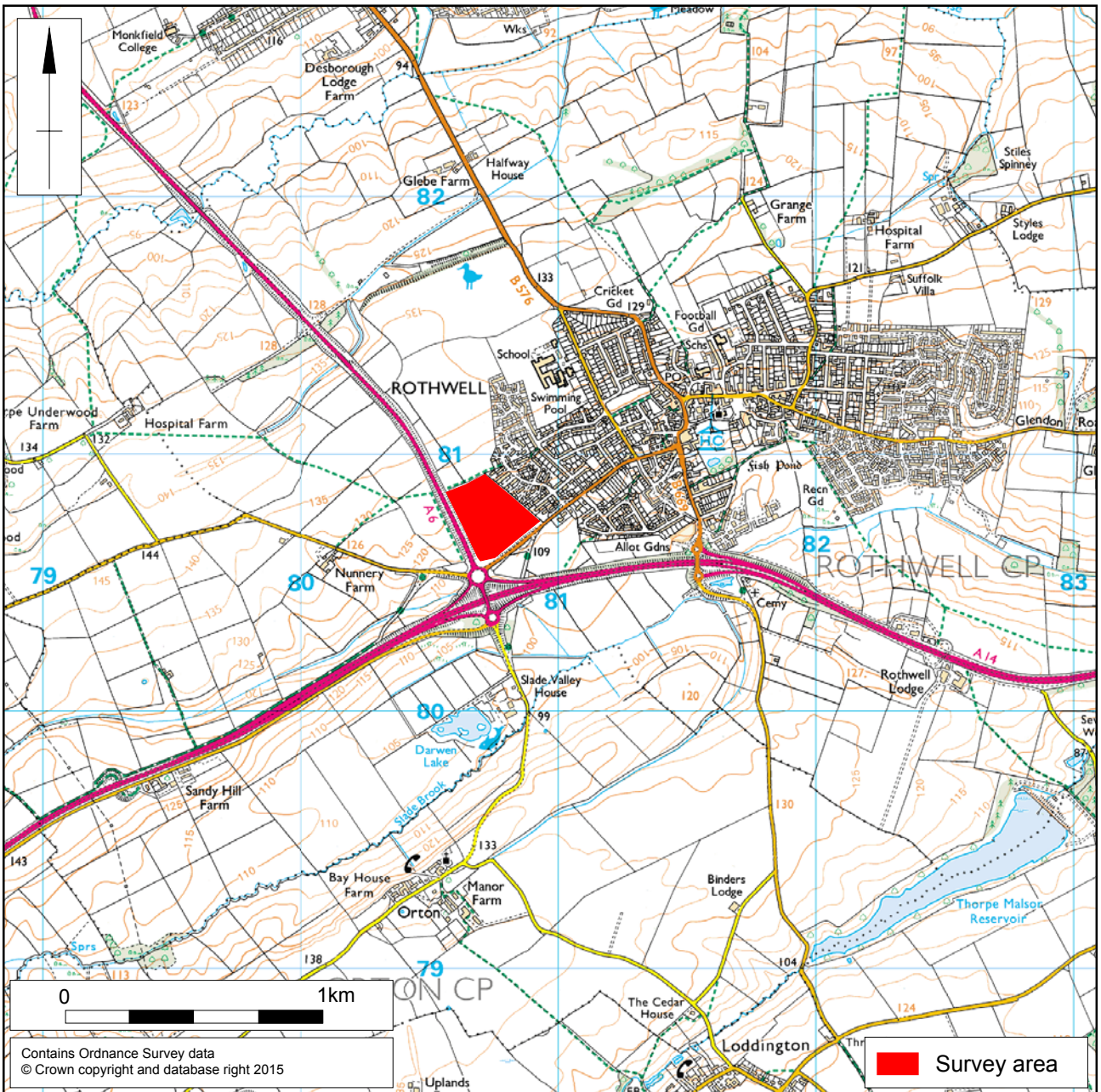
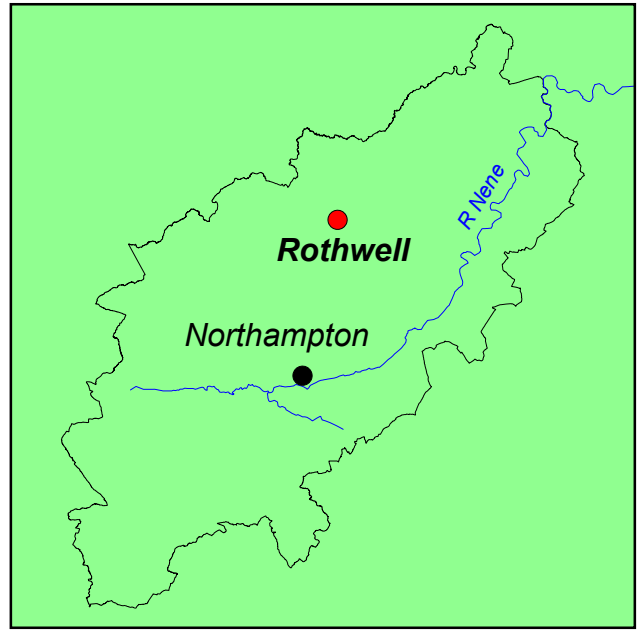
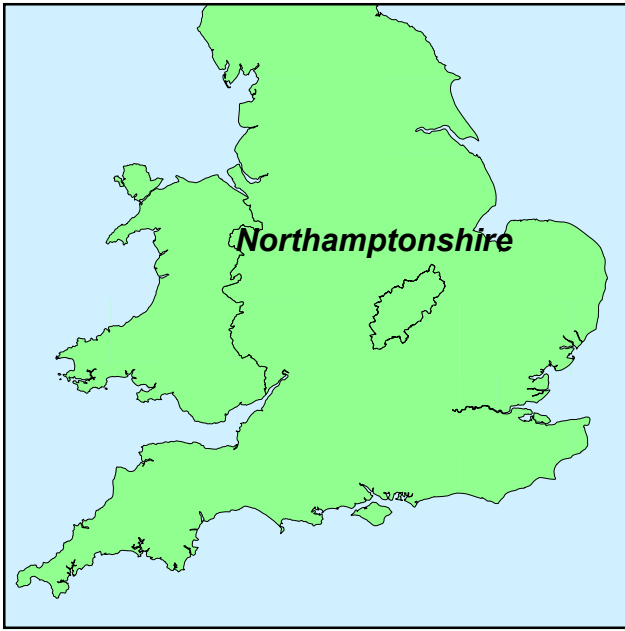
The Archaeological Advisor for Northamptonshire County Council (NCC) had advised that a programme of archaeological evaluation should be undertaken to determine the nature and extent of any archaeological remains within the Development Area. The requirements were outlined in a Written Scheme of Investigation prepared by MOLA (Brown 2014).

2 AIMS AND OBJECTIVES

The evaluation of the site was designed to provide information that will allow for the effective targeting of further investigation of the site, if required, prior to or during the early phases of its development.

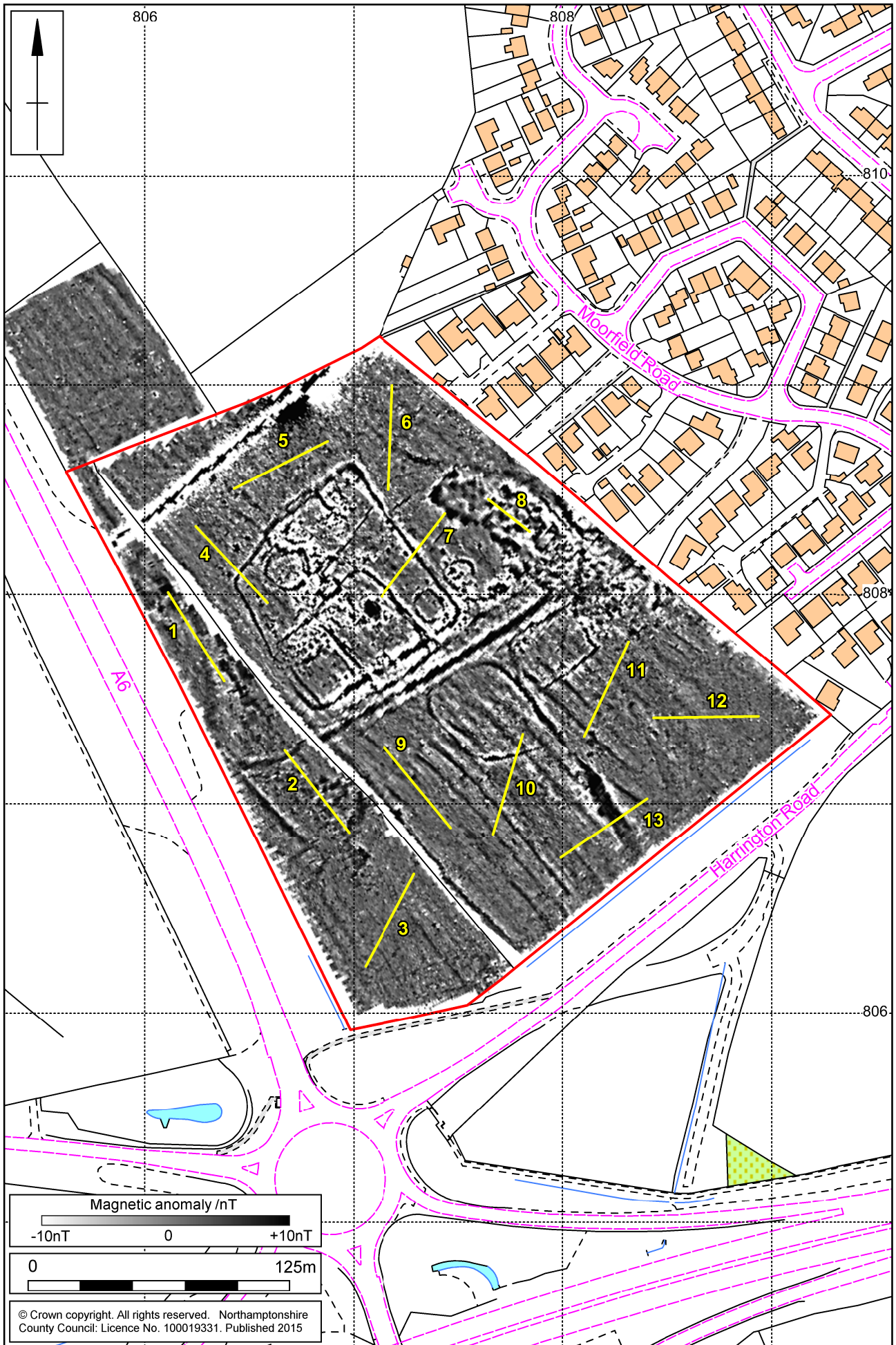
The following information was required to allow the development of a strategy for further investigation of the site:

- *The location, extent, nature, and date of any archaeological features or deposits that may be present;*
- *The integrity and state of preservation of any archaeological features or deposits that may be present.*



Scale 1:25,000 (A4)

Site location Fig 1



1:2500

Trench locations and geophysical survey results Fig 2

The evaluation was carried following the guidelines suggested by the ClfA's *Standards and guidance for archaeological field evaluation* (ClfA 2008), the MOLA Fieldwork Manual (2014) and the East Midlands regional framework (Knight *et al* 2012).

3 BACKGROUND

3.1 Topography and geology

The site occupies an area of 6.4ha in size, bounded by Harrington Road to the south-east and the A6 to the west. The site slopes from north-west to south-east, from approximately 126m to 113m above Ordnance Datum (aOD). The bedrock geology is recorded as Northampton Sand Formation with ironstone and Whitby Mudstone Formation (BGS 2015).

The site lies on the south-western edge of Rothwell and overlooks a shallow valley to the south along which Slade Brook, a tributary of the River Ise, flows to the east.



The site, general view overlooking the valley, looking south Fig 3

3.2 Historical and archaeological background

The present development area has previously been the subject of study as part of the archaeological assessment undertaken prior to the construction of the A6 Rothwell to Desborough Bypass (Shaw and Sharman 1992). Subsequent geophysical survey (Mudd and Hindmarch 2001) and trial trenching (Mudd 2001) was undertaken. A summary of that information follows, with the inclusion of more up-to-date HER data (Fig 5).

The 1992 assessment of the archaeological potential of the area around the site included an assessment of the field names, including those pertaining to the evaluation area and its environs (Fig 5). The main field adjacent to Harrington Road is recorded as 'Bastard Leys'. 'Leys' were an area of meadow or untilled land. The reason for the term 'Bastard' is less clear; the field is unlikely to have been particularly intractable land as it lies largely upon Northampton Sand (Shaw and Sharman 1992). The irregular parcel of land between 'Bastard Leys' and the A6 is recorded as 'Stonepit Close', which has much more obvious connotations. It is of particular relevance given the two quarry pits recorded within this field (HER 9928/0/1-2) and the results of the present geophysical survey and trial trench evaluation have identified a further quarry pit within the site boundaries.

The archaeological remains with the development area are part of a rich archaeological landscape which occupies the south facing valley edge to the west of Rothwell. The archaeological potential of the site was first identified by aerial photography in 1985 (Fig 4; Shaw and Sharman 1992). The results showed a large square enclosure, c0.6ha in internal area, containing numerous internal features and several ring ditches, as well as further possible ditches and trackways in the surrounding locale (*ibid*). The results are recorded as a possible Iron Age or Romano-British settlement (HER: 3991).

Further cropmarks existed at the south-western edge of the site in the area now occupied by the A6 (HER 3991/0/8, 9). These cropmarks which lay in the projected road corridor were again identified through the 1985 aerial photography and interpreted as a small enclosure and associated features of Iron Age date. A fieldwalking survey conducted across this area found a distribution of struck flint and a small amount of Iron Age and Roman period pottery. Subsequent geophysical survey of the area identified some anomalies, most likely of geological origin, which account for the cropmarks (Mudd and Hindmarch 2001). A trial trench excavated across the anomalies also confirmed the absence of any subsurface archaeological remains (Mudd 2001).

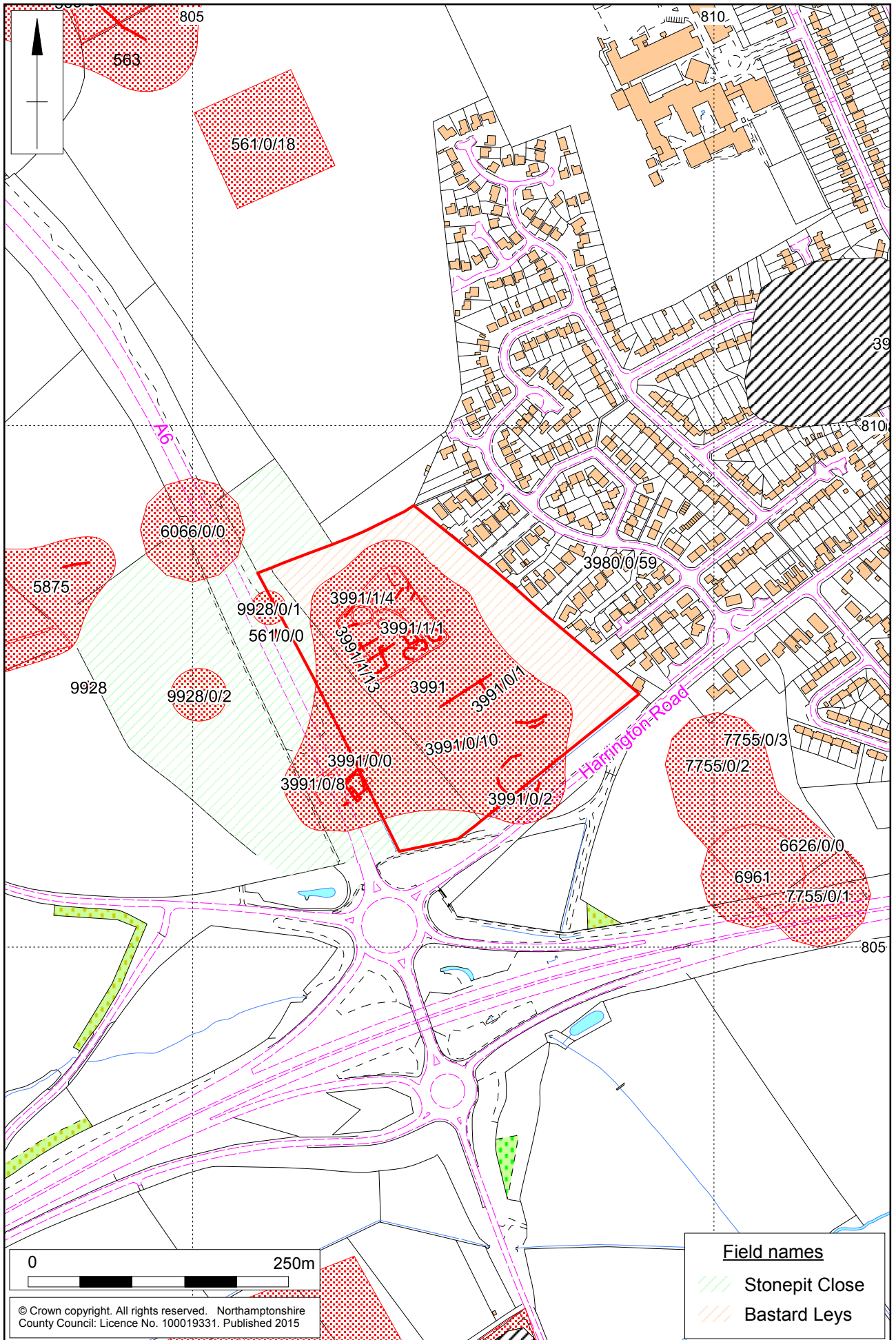
Possible Neolithic or Bronze Age activity lay c200m to the north-west (HER 6066). A possible prehistoric settlement, comprising linear ditches and enclosures, lies c450m to the west (HER 5875). Further undated, possibly prehistoric activity, has been recorded on the southern side of Harrington Road (HER 7755, 6626/0/0). A large Iron Age settlement is recorded c750m to the north-west of the site (HER 563).

A large concentration of medieval pottery was identified in the field named 'Stonepit Close', this was thought to be representative of a hitherto unidentified settlement site (HER 561/0/0; Shaw and Sharman 1992). As with the cropmarks to the south, geophysical survey and trial trenching of the area found that there was no subsurface archaeological evidence. Whilst it is possible that very shallow features may have been entirely destroyed by heavy ploughing; it is more likely that the distribution of pottery reflects multiple episodes of manuring of the site. Extant ridge and furrow earthworks are recorded to the north of the site (HER 561/0/18) and further post-medieval agricultural activity is recorded to the south (HER 6961).

The Royal Commission on Historical Monuments in England (RCHME) has recorded further prehistoric and Roman sites in the wider environs of the site and throughout the Parish of Rothwell. Post-Roman remains include an Anglo-Saxon cemetery, north-west of the evaluation area, and extant earthworks south of the town associated with shrinkage of the settlement in the medieval period (RCHME 1979).



Geo-rectified aerial photographs Fig 4



1:5000

Historic Environment Record (HER) data Fig 5

4 METHODOLOGY

4.1 Geophysical survey

The magnetometer survey was conducted using Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

An independent network of 30m grid squares was established within each of the fields to be surveyed. The grids were set out with a tape measure and optical square and were tied in to the Ordnance Survey National Grid using Leica Viva Global Positioning System (GPS) survey equipment using SMARTNET real-time corrections, operating to a 3D tolerance of $\pm 0.05\text{m}$.

The gradiometers were carried at a brisk but steady pace through each grid square, collecting data along 1.0m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per square. All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; ClfA 2011).

The survey data was largely processed using Geoplot 3.00v software. Most of the striping was removed using the 'Zero Mean Traverse' function. Destaggering of the data was performed where necessary. The processed data is presented in this report in the form of greyscale plots at a range of +10nT (black) to -10nT (white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 35). Interpretive overlays are presented in Figure 36, and plots of the unprocessed survey data are presented in Figure 37.

4.2 Trial trenching

Thirteen trenches were excavated using a 360° mechanical excavator fitted with a 1.8m-wide toothless ditching bucket. The topsoil, subsoil and non-structural post-medieval and later deposits were removed by a mechanical excavator, fitted with a toothless ditching bucket, to reveal significant archaeological remains or, where these were absent, the natural substrate. The topsoil and subsoil were stacked separately at the side of the excavated area. All procedures complied with MOLA Health and Safety provisions and *MOLA Health and Safety at Work Guidelines*.

The excavated area was cleaned sufficiently to define any features. The excavated area and spoil heaps were scanned with a metal detector to ensure maximum finds retrieval.

All archaeological deposits encountered during the course of the excavation were fully recorded, following standard MOLA procedures (MOLA 2014). All deposits were given a separate context number in a sequence assigned to each trench. They were described on *pro-forma* context sheets to include details of the context, its relationships and interpretation. Unstratified animal bones and modern material were not retained.

All trench locations were recorded using Leica Viva Global Positioning System (GPS) survey equipment using SMARTNET real-time corrections, operating to a 3D tolerance of $\pm 0.05\text{m}$. A full photographic record comprising both 35mm black and

white negatives and digital images was maintained. The field data from the evaluation has been compiled into a site archive with appropriate cross-referencing.

The evaluation conformed to the Chartered Institute for Archaeologists' *Standard and guidance for archaeological field evaluation* (ClfA 2014). All stages of the project were undertaken in accordance with English Heritage, *Management of Research Projects in the Historic Environment* (MoRPHE) (EH 2006). The evaluation was carried out in accordance with Written Scheme of Investigation (WSI) prepared by MOLA (Brown 2014).

All trenches were backfilled with their up-cast, lightly compacted by the mechanical excavator.

5 GEOPHYSICAL SURVEY RESULTS by Olly Dindol and John Walford

The geophysical survey results (Fig 2 and Figs 35-37) are in broad agreement with the cropmark evidence (Fig 4), demonstrating the presence of a large sub-square ditched enclosure in the northern half of the eastern field and a number of ditches and trackways lying to the south. The survey has also detected evidence for medieval ridge and furrow, undated quarrying and a modern pipeline.

The main enclosure is defined by a positive linear magnetic anomaly, measuring c90m across, which encompasses a dense concentration of other magnetic anomalies. Some of the latter appear to fit conformably within the enclosure, and may represent internal partitions, whilst others, particularly in the southern half of the enclosure are more likely to represent intersecting features from earlier or later phases of site development.

Two penannular anomalies occur within the enclosure, one in its eastern corner and another to the north-east. It is likely that these and other, less well defined, curvilinear anomalies mark the sites of roundhouses. The same interpretation applies to a similarly-sized curvilinear anomaly which lies just outside the eastern corner of the enclosure.

A zone of weak to moderate magnetic disturbance extends across much of the centre of the enclosure. This may have various explanations such as scatters of burnt material and other weakly magnetic occupation debris, as well as pits, postholes and other features too small to be individually resolved by this survey. Within the same area there is one large positive anomaly, the size and strength of which would be consistent with a pond or a small quarry pit.

On the north-eastern edge of the main enclosure there are short disjointed linear anomalies, which suggest the presence of radiating boundary ditches or parts of further enclosures. In the same area there are also a number of mostly small amorphous positive anomalies that may indicate pits.

To the south of the enclosure there is an extensive T-shaped configuration of positive linear anomalies that extend to the boundaries of the eastern field and continue into the smaller field to the west. The anomalies forming the head of the 'T' seem to represent a parallel set of ditches flanking a broader feature that may represent a sunken trackway or boundary ditch. Likewise, the shaft of the 'T' is comprised of a probable ditch and a broader feature to the south that is more likely to be a trackway.

Within the angles of the T-shaped ditch system, there are further linear anomalies which delimit the boundaries of two ditched enclosures. The eastern enclosure is almost rectangular in shape and measures c28m by 34m across; the enclosure to the west has a rounded form and is larger, almost 40m by 50m in size. Unlike the main enclosure, both of these seem to be devoid of internal features.

A large elongated zone of amorphous magnetic disturbance has been detected at the eastern edge of the survey area. This is likely to represent a backfilled quarry pit. One of the aforementioned trackways approaches this from the west, but it is unclear whether this was an access route to the quarry, or an earlier feature that the quarry has truncated.

In the small western field, the survey has detected an incoherent pattern of linear anomalies, at least some of which seem likely to represent ditches contemporary with the archaeology in the field to the east. However, some of the other anomalies at the southern end of the former field are relatively weak and indistinct, and it is not clear whether these relate to ditches or to modern field drains.

Parallel positive linear anomalies, aligned north-west to south-east, have been detected across both fields. These represent medieval to early post-medieval ridge and furrow cultivation. They can be most clearly seen at the northern and southern ends of the survey area and are less distinct towards the centre where they intersect with the various archaeological anomalies.

An intense positive linear anomaly, flanked by negative halos, crosses the northern end of the survey area and marks the line of a modern pipe. Other modern disturbance is represented by the extensive areas of amorphous and generally diffuse anomalies to the south of the pipe trench in the western field. The interpretation of these rests largely on the trial trench evaluation results (below), which show they coincide with areas where the ground surface has been lowered, or otherwise disturbed, presumably during the construction of the adjacent bypass.

6 THE EXCAVATED EVIDENCE

6.1 General stratigraphy

The natural substrate changed progressively from the higher ground at the north-western end of the development area, to the lower ground at the south-eastern end. On the higher ground the substrate comprised ironstone with occasional patches of mid-brownish-orange silty sand; further down the slope this became mid-brownish-orange silty sand with intermittent patches of ironstone. At the southern and south-eastern edge of the development area mid-greyish-brown sand and bluish-grey sandy clay was more prevalent.

Subsoil was present in only a few of the trenches, most notably in the trenches in the south-eastern half of the field. This may reflect ploughing and colluvial activity shifting soil from the upper to lower parts of the field. Where observed, the subsoil comprised light reddish-orange-brown sandy silt with occasional small to medium fragments of ironstone throughout.

The topsoil in the field remained consistent throughout all of the excavated trenches and comprised, dependent of moisture content, light to dark greyish-brown sandy silt with small fragment of ironstone throughout. In the north-western part of the development area the topsoil directly overlay the ironstone substrate and had

proportionally more ironstone inclusions throughout. As a result the topsoil in this area was free-draining.

6.2 Trenches 1, 5, 6, 9, 11 and 12

These trenches were excavated outside the main areas of archaeological significance in an effort to explore both the effectiveness of the magnetometer survey and the limits of the archaeological remains within the proposed development area. Aside from remnant furrows of the former ridge and furrow cultivation, as described in the geophysical data, no further archaeological remains were recorded in these trenches.

The ground level in trench 1 was significantly lower than the adjacent field and it is possible that the ground level has been reduced as part of the construction of the A6, which lies immediately to the west. This may account for the disturbed geophysical data in this area.

In trenches 5, 6 and 11 there were parallel linear features, aligned roughly north-west to south-east (Fig 2). These correlated well with linear anomalies identified in the geophysical data which are furrows of former ridge and furrow cultivation. Excavated examples, 505 and 1104, produced pottery sherds giving a *terminus ante quem* around the 18th to 19th centuries for these features.

Trenches 9 and 12 had no archaeological remains present, although trench 12 exhibited a significant build-up of colluvial material, 1202, as it lay in the lowest corner of the field.

6.3 Trench 2

Trench 2 was aligned north-west to south-east in the narrow strip of land at the western edge of the proposed development area (Fig 2). The ground level in this area was significantly lower than that in the main field; there is a step of c0.60m at the boundary between the two areas. It is possible that works associated with the construction of the A6 have resulted in some truncation of the ground level in this area.

A linear feature, aligned roughly north-east to south-west, at the north-western end of the trench may be the remains of a trackway or hollow-way (Fig 11). It is visible in the geophysical data extending to the north-east across almost the entire width of the site (Fig 2). The trackway was 4.8m wide and 0.42m deep with an irregular wide U-shaped profile and irregular base (Fig 12, Section 13). In the main field the trackway may survive to a greater depth and width as indicated by the much stronger results in the geophysical data. At the base of the trackway two parallel linear depressions may be wheel ruts created by the continuous passing of traffic along the route. The initial fill, 205, comprised mid-yellowish stony silty clay, c0.10m thick, which reflects broken stone and loose material in the base of the trackway during its use. The wheel ruts, 203 and 204, were visible against the natural as mid brown-grey silty, although they cut through broken and loose material in the base of the trackway as shown in Section 13 (Fig 12). The latest fill, 202, comprised the gradual accumulation of naturally derived material, characterised as friable mid-brownish-yellow silty clay, c0.40m thick. The very small amount of pottery recovered from the upper fill, 202, is broadly 1st century BC to the 1st century AD in date. A large quantity of animal bone was also recovered from this feature.

A sub-circular feature, 211, in the central part of the trench had an irregular profile and homogeneous fill, similar to the surrounding substrate (Fig 11). It has been interpreted as a tree hollow or other such vegetative disturbance.



Trench 2, trackway 206, looking south-east Fig 6

In the central part of the trench there was a large pit, 209, c 5.50m wide (Fig 11). The pit is visible in the geophysical survey results as a large area of disturbed data (Fig 2). Pottery recovered from the surface of the pit has been dated to between the 16th and 18th centuries. Due in part to its size and the post-medieval material visible on the surface, the pit was not excavated.

6.4 Trench 3

Trench 3 was aligned north-east to south-west and lay in the southern corner of the proposed development area (Fig 2). The ground dropped sharply to the south-west in that half of the trench where the ironstone and sandy clay substrate gave way to bluish-grey sandy clay.

A ditch, 305, aligned north-west to south-east; in the central part of the trench was 0.80m wide by 0.54m deep, with near vertical edges and an indistinct base (Fig 11). The fill, 304, comprised compact ironstone with mid-brownish sandy clay. The vertical edges of the ditch gave the impression of a modern service trench or drainage feature on the surface. The base of the ditch could not be fully exposed and it is possible that this is a modern feature, or if of archaeological origin, a palisade trench or similarly steep-sided feature. Further exploration of the surrounding area is needed to determine its true nature and date.

6.5 Trench 4

Trench 4 was aligned north-west to south-east and located in the north-west corner of the main field in order to target the northern edge of the large enclosure and some of the internal space.

At the south-eastern end of the trench, within the enclosure, posthole 404 was sub-circular with an irregular U-shaped profile and concave base, c0.46m in diameter and

0.33m deep (Figs 11-12, Section 1). The fill comprised friable light greyish-brown sandy silt with occasional small sub-angular ironstone fragments throughout. No dating evidence was recovered.

A large linear ditch, 407, aligned north-east to south-west, in the south-eastern half of the trench was 2.68m wide by 0.90m deep, with an irregular U-shaped profile that had eroded upper edges and an irregular flat base (Figs 11-12: Section 3). The profile of the western edge of the ditch suggested that it may have been recut although this was not apparent in the excavated section. The primary basal fill, 406, comprised friable light brownish-grey silty sand with frequent sub-angular ironstone fragments throughout, 0.38m wide by 0.10m thick. The upper fill, 405, was friable dark greyish-brown silty sand with frequent medium to large sub-angular fragments of ironstone and flecks of charcoal throughout, 2.68m wide by 0.80m thick. This ditch formed the north-western edge of the large sub-square enclosure visible in the geophysical data (Fig 2). Pottery recovered from the fill dates to the early-middle 1st century AD.

6.6 Trench 7

Trench 7 was aligned north-east to south-west and located in the north-western half of the main field (Fig 2). This trench investigated the north-eastern edges of a large sub-square enclosure and a smaller sub-rectangular enclosure identified in the geophysical data (Fig 2).

At the south-western end of the trench a linear ditch, 706, aligned north-west to south-east was 1.77m wide by 0.97m deep with a steep-sided U-shaped profile and concave base (Figs 7, 11-12, Section 6). The lower basal fill, 716, was 0.68m wide by 0.28m thick and comprised friable light brownish-grey silty sand with a high density of small to medium sub-angular ironstone fragments. The upper fill, 705, was 1.77m wide by 0.69m thick, comprising friable light brownish-grey sandy silt with sub-angular ironstone fragments throughout. This ditch formed the north-eastern boundary of a smaller sub-rectangular enclosure; pottery recovered from the fill dates to the early-middle 1st century AD.

A large linear ditch, 715, in the central part of the trench, aligned north-west to south-east was 1.70m wide by 1.30m deep with a steep sided U-shaped profile and irregular flat base (Figs 8, 11 and 13, Section 12). The basal fill of the ditch comprised friable mid brownish-grey sandy silt with a high ironstone content and occasional flint nodules, with charcoal flecks throughout. This basal fill reflected the initial stabilisation of the ditch edges immediately after the initial construction. A series of gradually accumulated deposits of naturally derived material comprised the rest of the ditch fill, characterised by mid brownish-yellow to mid brownish-grey clay silt with frequent ironstone inclusions and charcoal flecks throughout. The ditch forms the north-eastern edge of a large sub-square enclosure, the northern extent of which was excavated in trench 4. The pottery recovered from the fill of this ditch ranges in date from the 1st century BC through to the early 1st century AD.

Immediately adjacent to the north-east edge of ditch 715 was a second smaller linear ditch, 710, aligned north-west to south-east (Fig 11). Whilst close to one-another, no relationship between the two ditches was visible at this point. The ditch was 0.73m wide by 0.45m deep, with a steep-sided U-shaped profile and slightly concave base (Fig 12, Section 11). The fill, 709, comprised firm mid-brownish-grey clay silt with frequent sub-angular ironstone fragments and charcoal flecks throughout. Pottery recovered from this feature dates from the 1st century BC to the 1st century AD.



Trench 7, ditch 706, looking north-west Fig 7



Trench 7, ditch 715 and furrow 708, looking south-east Fig 8

A further ditch, 704, aligned north-west to south-east in the north-eastern half of the trench was 0.55m wide by 0.20m deep, with a shallow U-shaped profile and concave

base (Figs 11-12: Section 4). The fill, 703, comprised friable mid greyish-brown silty clay with occasional small sub-angular ironstone fragments throughout. Pottery recovered from this feature is of the 1st century BC to the 1st century AD.

A furrow, 708, in the central part of the trench was aligned north-west to south-east and cut the south-western edge of ditch 715 (Fig 13, Section 12). The furrow was 2.00m wide by 0.22m deep with a wide shallow U-shaped profile and irregular flat base. The fill, 707, comprised mid-reddish-brown clay silt with frequent sub-angular ironstone fragments throughout. No finds were recovered, although its alignment matches the furrows identified in the geophysical data (Fig 2).

6.7 Trench 8

Trench 8 was aligned north-west to south-east and located parallel to the north-eastern boundary to the evaluation area (Fig 11). This trench was excavated to investigate the large area of disturbed magnetic data identified in the geophysical data (Fig 2). Due to the extreme depth of the deposits and associated health and safety concerns, the trench was only excavated to half of its intended length.

Excavation of the trench confirmed the initial interpretation of the geophysical data, that the disturbance observed in this area was the result of quarrying of an unknown date. The trench was excavated to a depth of 1.78m below the present ground surface at which point a layer of mid yellowish-brown silty clay with a high density of very large broken ironstone slabs/blacks. The rest of the fill comprised a number of deposits characterised by light brownish-yellow to mid-dark brown silty clays with sub-angular ironstone fragments of ironstone of all sizes throughout. One very small fragment of pottery with a hard sandy fabric and quartz inclusions was recovered from one of these fills and dates from the 1st century BC to the 1st century AD. However, due to the size of the affected area and the known quarrying for ironstone in this part of Northamptonshire throughout the medieval and post-medieval periods (Tonks 2009), it is unlikely that this single fragment of pottery provides a secure date for the quarrying.

6.8 Trench 10

Trench 10 was aligned north-east to south-west and located in the southern part of the main field. This trench investigated the southern edge of a sub-square enclosure and anomalies indicative of ridge and furrow cultivation present in the geophysical data (Fig 2).

A linear ditch, 1005, was aligned approximately east-west toward the north-eastern end of the trench and was 0.95m wide by 0.30m deep with an asymmetrical U-shaped profile and concave base (Figs 9, 11 and 13, Section 7). The fill, 1004, comprised friable light greyish-brown sandy silt with occasional medium sub-angular ironstone fragments and flecks of charcoal throughout. Ceramic evidence recovered from this feature has been dated to the middle decades of the 1st century AD.

Wide linear features, aligned north-west to south-east, were present throughout the trench at regular intervals and have been interpreted as furrows associated with ridge and furrow cultivation. These features correlate well with the parallel linear anomalies identified in the geophysical data (Fig 2). Pottery fragments and glass recovered from the surface of one of the furrows in this trench date to the 18th-19th centuries.



Trench 10, ditch 1005, looking south-east Fig 9

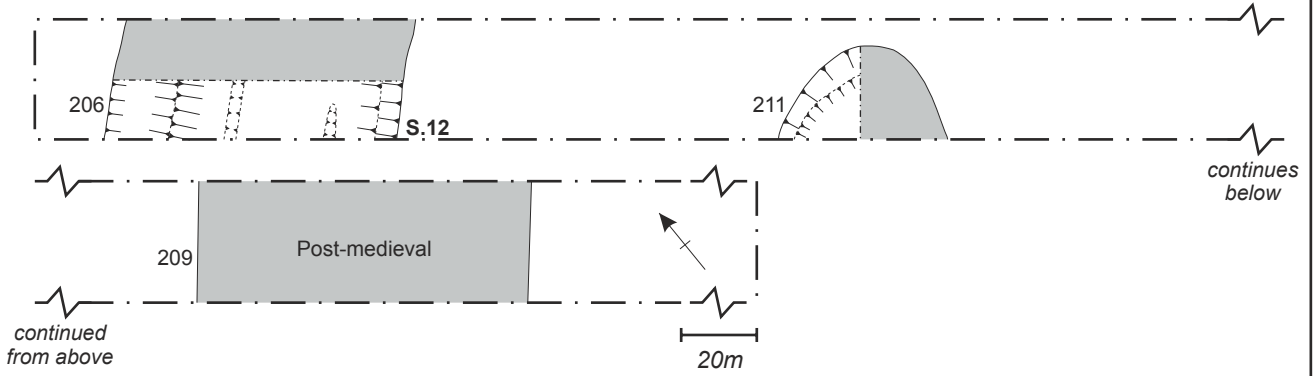
6.9 Trench 13

Trench 13 was aligned north-east to south-west and was located parallel to the south-eastern edge of the evaluation area. This trench investigated the large, broadly linear, positive anomaly of unknown form or function present in the south-eastern part of the main field (Fig 2).

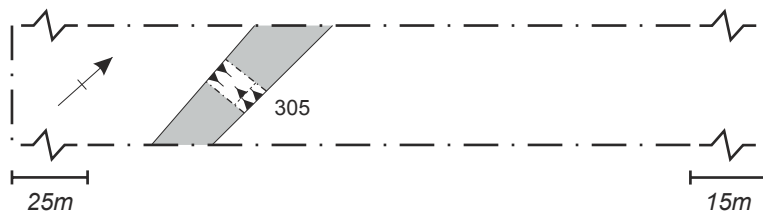


Trench 13, feature 1305, looking north-west Fig 10

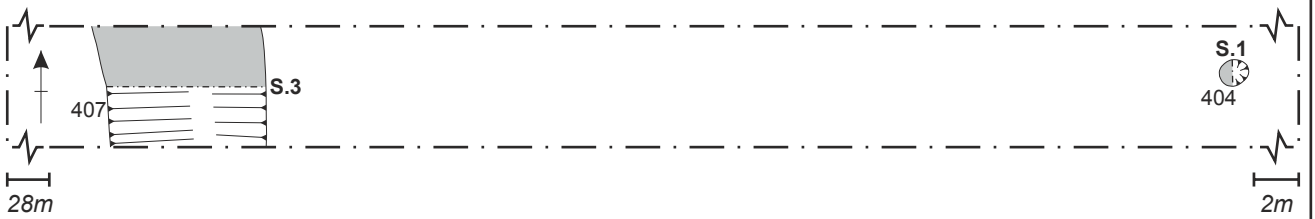
Trench 2



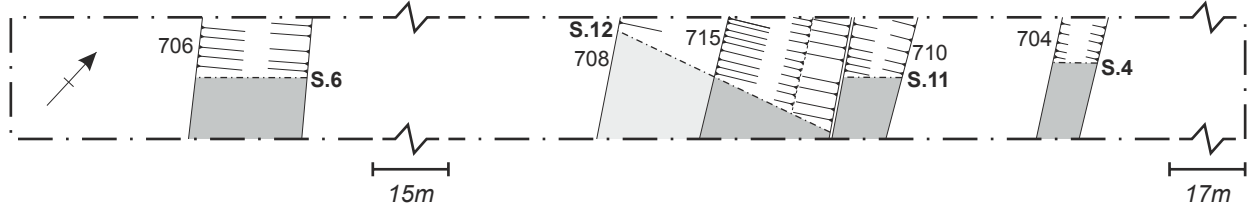
Trench 3



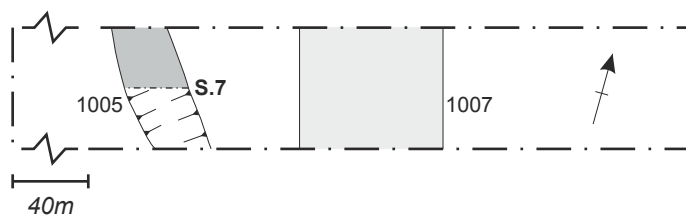
Trench 4



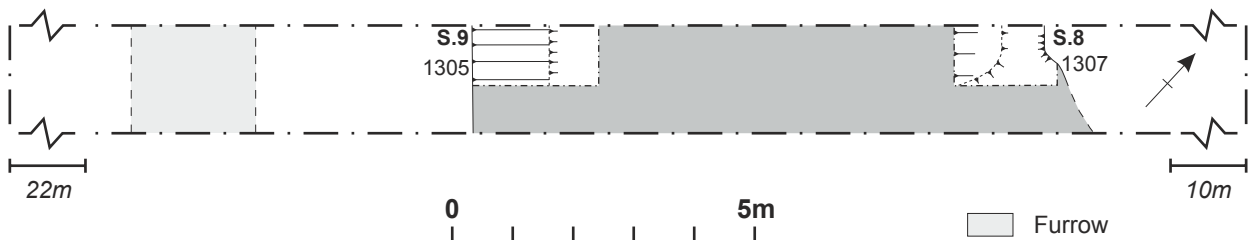
Trench 7

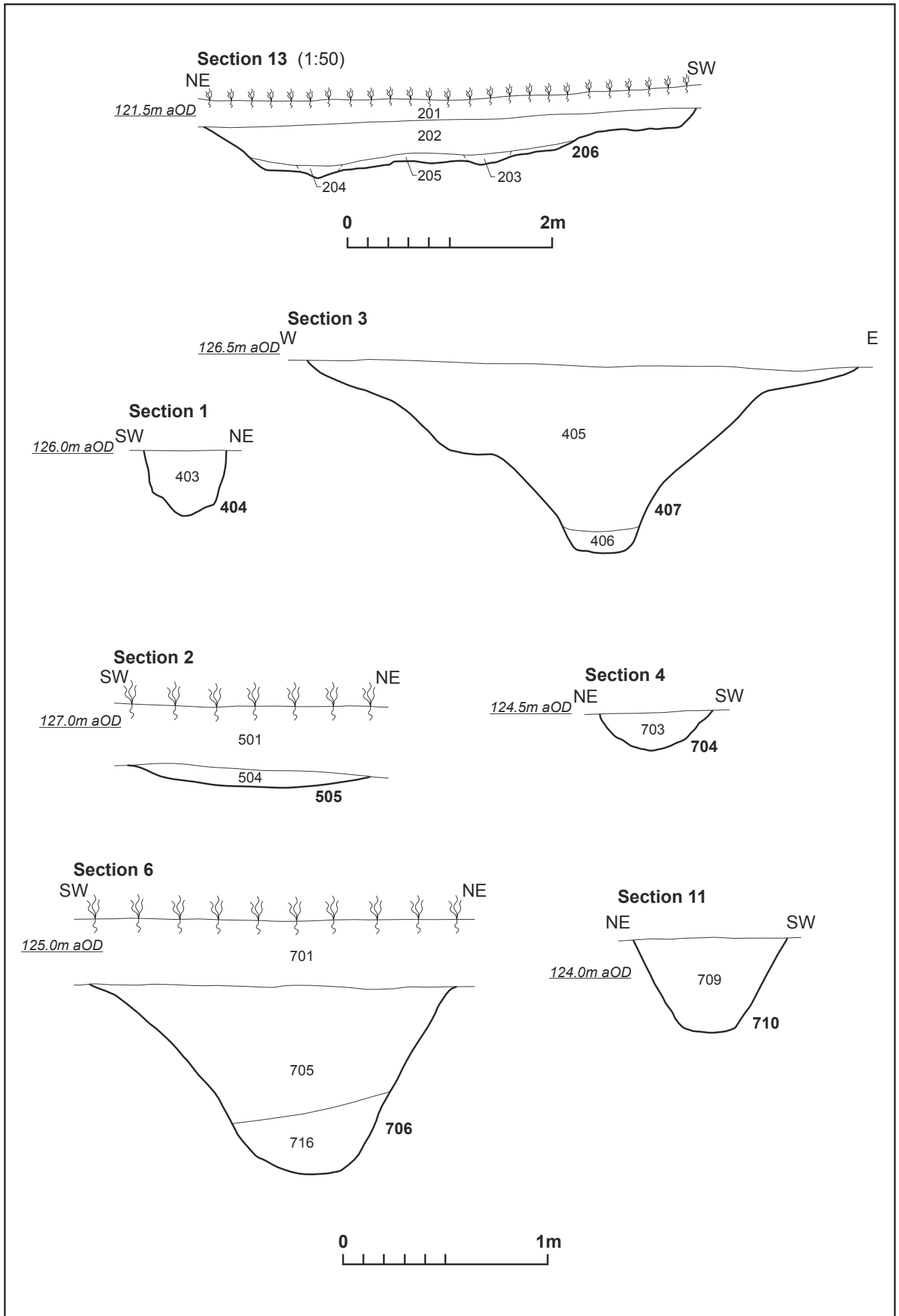


Trench 10



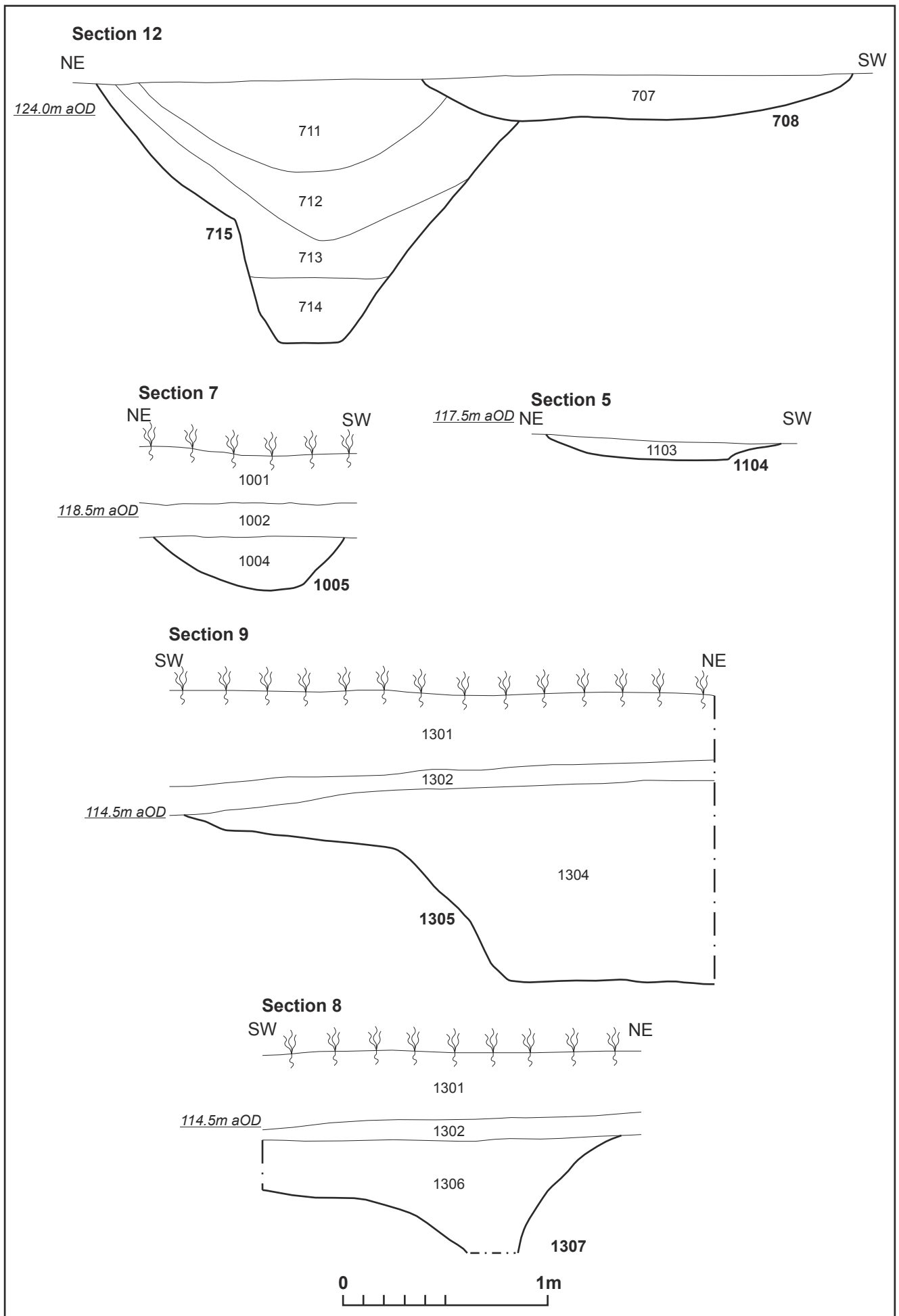
Trench 13





Scale 1:50 & 1:25

Sections of features in Trenches 2, 4, 5 and 7 Fig 12



Scale 1:25

Sections of features in Trenches 7, 10, 11 and 13 Fig 13

A broad linear feature, 1305/1307, aligned north-west to south-east, in the central part of the trench was c10m wide and was excavated to a maximum depth of 1.0m (Fig 11). Two sections were excavated, one at either edge of the feature, in an attempt to characterise it within the limitations of the evaluation (Figs 10 and 13, Sections 8-9). At its south-western edge the feature had a regular profile with a single homogeneous fill that comprised firm mid-orangey-brown silty clay with occasional small sub-angular ironstone inclusions and flecks of charcoal throughout. The section at the north-eastern edge had a less clear profile with several channels present in the edge and the base of the feature, leading in seemingly random directions. Pottery recovered from the fills are broadly late medieval to early post-medieval. Given the extremely wet conditions encountered during excavation, the homogeneous silty fill and the irregular channels recorded at the north-eastern edge, it is possible that this feature is of natural origin, perhaps a springhead or other geological anomaly present at the base of the slope. The more regular profile at the south-western edge suggested that the feature may have been modified or managed through human intervention, but had silted up completely in the 16th to 18th centuries.

Several other linear features, aligned north-west to south-east, were present throughout the trench. These correlate well with positive linear anomalies identified in the geophysical data (Fig 2) and relate to furrows, further evidence for ridge and furrow cultivation within the development area.

7 THE FINDS

7.1 The late Iron Age and early Roman pottery by Andy Chapman

A total of 104 sherds, weighing 1.12kg, of late Iron Age and transitional late Iron Age to early Roman pottery were recovered from one feature in trench 4, four features in trench 7, a layer in trench 8 and a ditch in trench 10.

The assemblage indicates a date range that may have begun in the 2nd century BC, but certainly spans the 1st century BC to the middle decades of the 1st century AD, up to and perhaps even slightly after the Roman Conquest.

Fabrics

Fabric A, Large shell: Containing dense inclusions of crushed shell, 1-4mm across.

Fabric B, Fine shell: Containing sparse inclusions of crushed shell

Fabric C, Sandy: hard fabric with fine quartz.

Fabric D, Calcareous: Containing moderate small calcareous (chalky) inclusions, 1-3mm diameter, in a hard, thin-walled (5mm thick) fabric, with a light grey core and a pale orange external surface.

Fabric E, sandy with mica: hard fabric, with very fine quartz and mica platelets

Fabric F, grog: containing small rounded pellets of grog

Fabric G, briquetage: Pink fabric containing small rounded calcareous (chalky) pellets, sparse small shell, and also pellets of red-orange grog.

Table 1: Pottery quantification by fabric type (no. of sherds)

Fabric Fill/cut	A	B	C	D	E	F	G	No	Weight (g)
405/407	7	1	2	1	1	-	-	12	159.0
703/704	-	-	2	-	-	-	-	2	13.0
705/706	11	5	-	-	-	1	-	17	159.0
709/710	2	-	-	-	-	-	-	2	14.0
711/715	7	5	4	-	-	-	7	23	77.0
712/715	10	4	1	4	-	-	4	23	326.0
713/715	6	6	-	-	-	-	-	12	150.0
714/715	10	-	-	-	-	-	-	10	50.0
803 layer	-	-	1	-	-	-	-	1	6.0
1004/1005	-	-	1	-	-	1	-	2	
Totals	53	21	11	5	1	2	11	104	1118.0
Percent									

Forms, decoration and chronology

One of the larger groups is from the fill 405 of ditch 407. This includes a range of vessel types. There is a thin-walled sherd of scored ware, but in an unusual fabric for Northamptonshire, which contains small calcareous inclusions; typical local vessels containing dense shell include a lug (Fig 14) and a distinctive T-shaped rim form from an open bowl, 350mm in diameter, with a shallow groove along the top of the flattened rim (Fig 15). This comes from a distinctive vessel type, a large open bowl perhaps associated with dairying that has been recognised at several sites in Northamptonshire and adjacent counties (A Chapman pers comm). There is also a thin-walled body sherd in a fine sandy fabric containing mica, which is likely to be late Iron Age to early Roman in date (early-middle 1st century AD).



Vertical lug from ditch 407
(Scale 10mm) Fig 14



Open bowl with T-shaped rim from ditch 407
(Scale 10mm) Fig 15

There is another large group from the fill 705 of ditch 706. This is dominated by body sherds containing dense coarse shell but there is a small body sherd, containing finely crushed shell and black throughout, with very fine comb decoration, and a body

sherd in a fabric containing grog. These vessels indicate a late Iron Age to early Roman date (early-middle 1st century AD).

The fills, 711-714, of the large enclosure ditch 715 produced the largest pottery group from the site, with a wide range of vessels but only a few sherds from each. From the lower secondary fill, 713, there is a smaller group including body sherds with burnished external surfaces and body sherds from a jar with the irregular scoring typically of middle to late Iron Age scored ware jars (Fig 16). From upper secondary fill 712 there is a large body sherd from a bowl, grey-black throughout, with a highly burnished surface, and sherds from two scored ware jars both comb scored (Fig 17). From the final fill, 711, there is a bead rim from a small bowl, black throughout, body sherds from a jar in a sandy fabric, and a horizontal lug/handle, black throughout (Fig 18). The lower secondary fill, 713, of ditch 715 may have been accumulating during the 1st century BC, while the fills above this probably date to the early 1st century AD.



Irregularly scored jar from ditch 715
(Scale 10mm)

Fig 16



Sherds of comb-scored ware from ditch 715
(Scale 10mm)

Fig 17



Horizontal lug/handle from ditch 715
(Scale 10mm)

Fig 18

In addition, the upper secondary and final fills, 711 and 712, of ditch 715 also produced eleven small sherds in a distinctive soft pink fabric containing small chalky pellets and also pellets of red-orange grog (Fig 19). These were poorly mixed but the larger pieces had roughly smoothed surfaces. The chalky inclusions are not local, and suggest that while these pieces are small and poorly preserved, they are not fired clay but fragments of briquetage vessels, in which salt would have been carried to the site. The fabric can be equated to a Fenland briquetage fabric identified by Morris, the shelly limestone-gritted group (Morris 2010, 33-37).



Irregular sherds of probable briquetage (Scale 10mm) Fig 19



Channel-rim jar and large storage jar from ditch 1005 (Scale 10mm) Fig 20

A single group, from the fill 1004 of ditch 1005 can be dated slightly later, specifically to the middle decades of the 1st century AD, either a little before or after the Roman Conquest. It comprises two vessels, a thin-walled channel-rim jar in a grogged fabric, and the rim from a large storage jar, with fingernail impressed decoration on the shoulder (Fig 20).

7.2 The Roman, medieval and post-medieval pottery by Tora Hylton

Six sherds of Roman, medieval and post-medieval pottery with a combined weight of 106g were recovered from archaeological deposits (Table 2). The assemblage comprises mainly worn and abraded undiagnostic body sherds. Where possible the sherds have been classified according to the Ashton Roman Pottery Type series (Aird and MacRobert, unpublished) and Northamptonshire County Ceramic Type Series (Blinkhorn 1996).

The earliest dateable sherds were recovered from a large feature in trench 13, 1305. They include, an undiagnostic bodysherd in a hard grog-tempered Roman fabric which dates to the late 1st to mid-2nd century (Ashton Fabric A1), and a base sherd from a Lyveden/Stanion 'B' ware jar (CTS 320) which dates to cAD1225–1400. Two post-medieval sherds were recovered from the same feature, a handle from a Midland purple tyg (CTS 411), dating to c1550–1700 and a tiny fragment of Staffordshire slipware (CTS 409).

Two undiagnostic sherds of 18th-19th-century pottery were recovered from furrow 1007.

Table 2: Quantification of Roman, medieval and post-medieval pottery

Fill/feature Fabric type	1006/1007		1304/1305		1306/1307	
	No	Wgt (g)	No	Wgt (g)	No	Wgt (g)
Roman pottery						
Grog-tempered ware (late 1st to mid-2nd century)	-	-	1	6	-	-
medieval pottery						
Lyveden/Stanion 'B' ware (CTS 320) (cAD1225–1400)	-	-	1	61	-	-
post-medieval pottery						
Midland blackware (CTS 411) (cAD1550–1700)	-	-	-	-	1	17
Staffordshire slipware (CTS 409) (c1680–1750)	-	-	-	-	1	2
Iron glazed earthenware (CTS 426) (late 18th-19th century)	1	16	-	-	-	-
Utilitarian whiteware (late 18th-19th century)	1	4	-	-	-	-
Total	2	20	2	67	2	19

7.3 Other finds by Tora Hylton

Copper alloy

Three fragments of circular-sectioned wire (1mm diameter) were recovered from fill 712 of enclosure ditch 715. The pieces are damaged, almost folded in half and two of the pieces join together to form a loop, it is possible that they all join together to form an annular ring. Ceramic material recovered from this context has been dated to the early 1st century AD.

Clay tobacco-pipe

Two abraded clay tobacco-pipes stems were recovered from fill 1306 of feature 1307. They measure up to 27mm in length and the size of the stem bore (5/64's and 6/64's of an inch) suggests an 18th-century date for the fragments. Post-medieval pottery sherds were also recovered from this context.

Iron

Two undatable fragments of iron were recovered from fill 1306 of feature 1307. One piece is difficult to identify since corrosion deposits adhere to the surface and the other may be a hand forged nail with part of the shank missing.

Glass

There are two abraded shards of bottle glass. One worn fragment (36mm by 23mm) of green glass with iridescent laminating surfaces was recovered from fill 1306 of feature 1307; a fragment of modern brown glass (36mm by 31mm) was recovered from furrow 1007.

7.4 Slag by Andy Chapman

There are several small pieces of fuel ash slag, weighing 9g, from fill 705 of ditch 706.

7.5 Animal bone by Adam Reid

A total of 1.86kg of animal bone was hand collected from eleven different contexts. This material was assessed to determine the level of preservation, the taxa present and to inform on the potential for further work.

All material was washed prior to analysis. Identifiable bones were noted, and were examined for signs of butchery and the state of epiphyseal fusion. Identifications took place with the aid of the MOLA Northampton reference collection and Hillson (1992) and France (2009) were also consulted. Specimens that could not be positively identified were attributed, where possible, to categories including large mammal (cattle, horse), medium mammal (sheep/goat, pig, large dog), and small mammal (small dog, cat, rabbit). No microfaunal specimens were noted. The English Heritage *Guidelines for Best Practice for Animal Bones and Archaeology* (EH 2014) were followed, where possible.

Identification and quantification

The highly fragmented nature of the assemblage made identifications difficult and a presentation of the results can be seen below (Table 3). Positive identifications were made for 54 specimens; 18% of the total assemblage. All identified taxa are domestic food bearing animals, with the exception of a single cervid bone fragment (probably roe deer) recovered from fill 712 of ditch 715.

Table 3: Quantification of animal bone assemblage by species/type

Fill/cut type	Cattle <i>Bos</i>	Sheep/goat <i>Ovicaprid</i>	Pig <i>Sus</i>	Deer <i>Cervid</i>	Medium Mammal	Large mammal	Indet	Total
202/206 trackway	5	-	-	-	-	22	13	40
203/206 trackway	-	1	-	-	-	1	-	2
405/407 ditch	7	6	1	-	42	12	14	82
705/706 ditch	2	-	1	-	6	2	4	15
709/710 ditch	3	-	-	-	4	-	2	9
711/715 ditch	2	-	1	-	31	12	23	69
712/715 ditch	3	9	1	1	24	7	-	45
713/715 ditch	7	1	-	-	12	6	1	27
714/715 ditch	1	1	-	-	3	-	-	5
803/ layer	-	-	-	-	6	-	2	8
1304/1305 pit/trackway	1	-	-	-	-	-	-	1
Total	31	18	4	1	128	62	59	303

Preservation and taphonomy

The state of preservation of the material was moderate to poor, with moderate surface abrasion and a high degree of fragmentation. No clear evidence of butchery was noted but evidence of carnivore gnawing was noted on single specimens from fills 712 and 713 of ditch 715.

Conclusions

The small assemblage makes it difficult to draw any conclusions, other than to say that the main domestic taxa were utilised at the site, and the material appears to derive from domestic waste, with no suggestions of crafting activity. The presence of identifiable material from several of the excavated features indicates the possibility for future faunal analysis, should any further work take place.

7.6 Charred plant macrofossils and other remains by Val Fryer

Introduction and method statement

The samples were bulk floated and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in Appendix B. Nomenclature within the table follows Stace (2010). All plant remains were charred. Modern roots, seeds and straw fragments were also recorded.

Results

Cereal grains, chaff and seeds are present at a low density within all four assemblages. Preservation is poor to moderate, with the grains in particular being puffed and distorted, probably as a result of combustion at very high temperatures. Many macrofossils are also fragmentary.

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains are recorded along with very rare chaff elements including a single spelt wheat (*T. spelta*) glume base. Seeds are particularly scarce, with most occurring as single specimens within an assemblage. All are of common segetal weeds/grassland herbs, with taxa noted including onion couch (*Arrhenatherum* sp.), brome (*Bromus* sp.), grasses (Poaceae), wild radish (*Raphanus raphanistrum*) and dock (*Rumex* sp.). Possible seeds of medick/clover/trefoil (*Medicago/Trifolium/Lotus* sp.) type are present throughout, but all are very poorly preserved. A single sedge (*Carex* sp.) nutlet is recorded within the assemblage from sample 3, fill 712 of ditch 715. Sample 2, fill 405 of ditch 407, contains fragments of hazel (*Corylus avellana*) nutshell and sample 1, feature 1305, includes an elderberry (*Sambucus nigra*) seed. Charcoal/charred wood fragments (some of which are quite large, i.e. >10mm) are present throughout, but other plant macrofossils are scarce.

Other remains also occur relatively infrequently. The fragments of black porous and tarry material are mostly thought to be residues of the combustion of organic remains at very high temperatures. However, some pieces are hard and brittle and may be by-products of the combustion of coal, occasional fragments of which are also recorded. The latter are often noted where night soil was spread on the land during the later medieval and post-medieval periods or where steam implements were used during the early modern era. Small pieces of bone, some of which are burnt, are present within three of the four samples and a ferrous spherule is noted within the assemblage from sample 3.

Conclusions and recommendations for further work

The three assemblages from the enclosure ditches appear to be derived from scattered refuse, much of which was probably accidentally incorporated within the ditch fills. As macrofossils are so scarce, it is impossible to identify an origin for the material, although it is, perhaps, most likely that it is derived from either domestic refuse or agricultural detritus. However, it would appear very unlikely that either activity was occurring within the immediate vicinity. The assemblage from feature 1304 is essentially similar to those from the ditches, although it does appear to contain a higher density of intrusive remains, most notably the coal fragments.

Although these assemblages are a little inconclusive, they clearly illustrate that plant macrofossils are preserved within the archaeological horizon in this area of Rothwell. Therefore, if further interventions are planned, it is suggested that additional plant macrofossil samples of c40 litres in volume are taken, although sampling should be concentrated on features which are both well-sealed and well-dated.

8 DISCUSSION

The results of the trial trench evaluation and geophysical survey correlate well with one another. Whilst a small number of typically smaller features were not identified in the geophysical data, the trial trench work has confirmed that archaeological remains are largely confined to the areas indicated in the geophysical data.

The site is dominated by a large sub-square enclosure in the northern half of the field, within it are a number of internal features including smaller sub-square and sub-circular enclosures. A smaller sub-rectangular enclosure is present in the same area although it is unclear at this stage whether it pre-dates or post-dates the larger enclosure. The pottery is of the 1st century BC to mid-1st century AD, within the late Iron Age. In some cases the clear stratigraphic sequence of deposits in the ditches matches a clear chronological distinction in the form and fabric of the pottery. Environmental samples taken from these features have shown that preservation of the charred plant remains and other macrofossils is generally poor and largely represent remains that have become part of the fill from natural sources.

A large linear anomaly, aligned north-east to south-west, bisecting the evaluation area, is visible in the geophysical data and was interpreted as a possible trackway. Evaluation at its south-western end confirmed that this feature is most likely a sunken lane or hollow-way. No dateable evidence was recovered from this feature and it remains unclear whether it is contemporary with the late Iron Age to Roman features or some later activity.

Sub-square enclosures in the southern half of the area were less substantial than the enclosures to the north. The pottery has been dated to the middle decades of the 1st century AD and may relate to a slightly later phase of activity.

A large area of magnetic disturbance in the geophysical data at the eastern edge of the site was confirmed as an ironstone quarry. Whilst no secure dating was recovered from the fill, the rich history of ironstone quarrying in the region from the medieval period onwards is likely to preclude a prehistoric date for the activity. At this stage the relationship between the quarry and the trackway is unclear.

Ridge and furrow cultivation evidence is present in the geophysical data and were recorded in the excavated trenches. The alignment of the ridge and furrow is the

same as that shown in a comprehensive survey of ridge and furrow earthworks in Northamptonshire (Partida *et al* 2013). Post-medieval pottery was observed in the fill of a number of the furrows. Further post-medieval material was recovered from a large feature in the south-eastern part of the area. The complete form and function of this feature remains unclear although it may relate to a geological rather than archaeological feature.

BIBLIOGRAPHY

Aird, P, and MacRobert, E, The Roman Pottery from Ashton, Northamptonshire, Level 3 Report (unpublished)

Blinkhorn, P, 1996 Northamptonshire Anglo-saxon and Medieval County Ceramic Type Series

Brown, J, 2014 *Written Scheme of Investigation for geophysical survey and archaeological trial trench excavation at Harrington Road, Rothwell*, MOLA Northampton

Butler, A, 2009a *Archaeological geophysical survey, land south of Harrington Road, Rothwell, Northamptonshire*, Northamptonshire Archaeology report, **09/137**

Butler, A, 2009b *Archaeological geophysical survey on land adjacent to the A14 J3, Rothwell, Northamptonshire*, Northamptonshire Archaeology report, **09/86**

CIfA 2011 *The Use of Geophysical Techniques in Archaeological Evaluations*, Chartered Institute for Archaeologists

CIfA 2014 *Standard and guidance for archaeological field evaluation*, Chartered Institute for Archaeologists

DCLG 2012 *National Planning Policy Framework*, Department of Communities and Local Government

EH 2006 *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers Guide*, English Heritage

EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage

EH 2014 *Animal Bones and Archaeology: Guidelines for Best Practice*, English Heritage

France, D L, 2009 *Human and Nonhuman Bone Identification: A Colour Atlas*, Boca Raton: CRC Press

Hillson, S, 1992 *Mammal Bones and Teeth: An Introductory Guide to Methods of Identification*, London: UCL Institute of Archaeology Publications

Knight, D, Vyner, B, and Allen, C, 2012 *East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*, Nottingham Archaeological Monographs, **6**, York Archaeological Trust

MOLA 2014 *Archaeological Fieldwork Manual*, MOLA Northampton

Morris, E, 2010 Briquetage, in T Lane and E Morris *A millennium of saltmaking: Prehistoric and Romano-British salt production in the Fenland*, Lincolnshire Archaeology and Heritage Report Series, **4**

Mudd, A, and Hinmarch, E, 2001 *A6 Rothwell and Desborough Bypass Archaeological Assessment; Stage 4 Geophysical Survey*, Northamptonshire Archaeology report

Mudd, A, 2001 *A6 Rothwell and Desborough Bypass Archaeological Assessment: Stage 6 Trial Trenching Volume 1 and 2*, Northamptonshire Archaeology report

Partida, T, Hall, D and Foard, G, 2013 *An Atlas of Northamptonshire: the Medieval and Early-Modern Landscape*, Oxbow Books, Oxford

Shaw, M, and Sharman, T, 1992 *A6 Rothwell and Desborough Bypass Archaeological Evaluation: Stages 1 and 2 Desk-based Study and Field-walking Survey*, Northamptonshire Archaeology report

Stace, C, 2010 *New Flora of the British Isles* (3rd edition) Cambridge University Press

Tonks, E, 2009 *The Ironstone Quarries of the Midlands: History, Operation and Railways: Part 5, The Kettering Area*, Book Law Publications

WEBSITES

<http://bgs.ac.uk/> (accessed 15th November 2014)

APPENDIX A: CONTEXT INVENTORY

Trench No.	Length, width & alignment		Surface height, NW end (aOD)	Depth & height of natural (aOD)
1	NW-SE 1.8m x 50m		124.84m	0.24 – 0.34m 124.64 – 124.54m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
101	Topsoil	Light grey-brown sandy silt with occasional sub-angular stones throughout.	0.24 – 0.34m thick	-
102	Natural	Light orange-brown sandy silt with sub-angular fragments of ironstone throughout. Patches of lighter brown-grey sandy silt.	0.00 – 0.09m visible	-



Trench 1, general view, looking north-west Fig 21

Trench No.	Length, width & alignment		Surface height, SE end (aOD)	Depth & height of natural (aOD)
2	NW-SE 1.8m x 50m		119.31m	0.25 – 0.26m 119.06 – 119.05m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
201	Topsoil	Dark brown silty clay with root intrusion and small angular fragments of ironstone throughout.	0.25 – 0.26m thick	-
202	Fill of [206]	Friable mid yellow-brown silty clay with rare small angular fragments of ironstone throughout.	W – 5.00m D – 0.40m	Pottery, animal bone
203	Fill of [206]	Friable mid brown-grey silty clay with occasional angular ironstone fragments throughout.	W – 0.44m D – 0.11m	-
204	Fill of [206]	Friable mid brown-grey silty clay.	W – 0.46m D – 0.09m	-
205	Fill of [206]	Friable mid yellowish-silty sandy clay with frequent small angular fragments of ironstone throughout.	W – 3.20m D – 0.10m	Animal bone
206	Trackway	Wide linear feature aligned north-east to south-west with a shallow U-shaped profile and flat-irregular base.	W – 4.80m D – 0.42m	-
207	Natural	Ironstone with firm mid-light yellow sandy clay patches.	0.04 – 0.10m visible	-
208	Fill of [209]	Firm mid brown-yellow silty clay with small-medium sized angular fragments of ironstone throughout.	W – 5.50m	Pottery, glass
209	Pit	Wide irregular shaped pit. Not excavated.	W – 5.50m	-
210	Fill of [211]	Friable light grey-yellow sandy silt.	Ø – 1.40m D – 0.25m	-
211	Tree hollow	Sub-circular pit/tree hollow with irregular edges and shallow bowl-shaped profile.	Ø – 1.40m D – 0.25m	-



Trench 2, general view, looking north-west Fig 22

Trench No.	Length, width & alignment		Surface height, NE end (aOD)	Depth & height of natural (aOD)
3	NE-SW 1.8 x 50m		118.02m	0.30 – 0.42m 117.72 – 117.60m
Context	Context type	Description	Dimensions	Artefacts/ Samples
301	Topsoil	Light grey-brown sandy silt with occasional sub-angular stones throughout.	0.25 – 0.31m thick	-
302	Subsoil	Mid brown-orange sandy silt at north-east end. Light grey-green sandy clay at south-western end. Rare small angular ironstone fragments throughout.	0.05 – 0.11m thick	-
303	Natural	Mid brown-orange sandy silt with ironstone fragments throughout. At south-western end, changes to light grey-green sandy clay.	-	-
304	Fill of [305]	Compact light grey-brown sandy silt with high percentage of packed ironstone throughout.	W – 0.80m D – 0.54m	-
305	Ditch	Linear feature with near vertical edges and irregular base. Possibly a ditch, could be a modern or geological feature.	W – 0.80m D – 0.54m	-



Trench 3, general view, looking south-west Fig 23

Trench No.	Length, width & alignment		Surface height, NW end (aOD)	Depth & height of natural (aOD)
4	NW-SE 1.8 x 50m		127.42m	0.24 - 28m 127.18 – 127.14m
Context	Context type	Description	Dimensions	Artefacts/Samples
401	Topsoil	Light grey-brown sandy silt with occasional sub-angular stones throughout.	0.24 – 0.28m thick	-
402	Natural	Light orange-brown sandy silt with frequent ironstone throughout.	0.03 – 0.04m visible	-
403	Fill of [404]	Soft light grey-brown sandy silt with small sub-angular ironstone fragments throughout.	Ø – 0.46m D – 0.32m	-
404	Posthole	Sub-circular with irregular U-shaped profile and concave base.	Ø – 0.46m D – 0.32m	-
405	Fill of [407]	Friable dark grey-brown silty sand with frequent small-medium angular ironstone fragments throughout. Frequent charcoal flecks throughout.	W – 2.68m D – 0.80m	Pottery, animal bone
406	Fill of [407]	Friable light brown to dark grey silty sand with small and medium angular ironstone fragments throughout.	W – 0.38m D – 0.10m	-
407	Ditch	Linear enclosure ditch aligned north-east to south-west with irregular U-shaped profile and flat base.	W – 2.68m D – 0.90m	-



Trench 4, general view, looking north-west Fig 24

Trench No.	Length, width & alignment		Surface height, ENE end (aOD)	Depth & height of natural (aOD)
5	ENE-WSW 1.8 x 50m		127.05m	0.26 – 35m 126.79 – 126.70m
Context	Context type	Description	Dimensions	Artefacts/ Samples
501	Topsoil	Friable dark grey-brown sandy silt with frequent root intrusions.	0.26 – 0.30m thick	-
502	Subsoil	Friable light orange-brown sandy silt with occasional ironstone fragments throughout.	0.00 – 0.05m thick	-
503	Natural	Firm-friable mid orange-brown sandy silt with frequent small-large ironstone fragments throughout.	-	-
504	Fill of [505]	Friable mid-dark orangey-brown sandy silt with occasional ironstone fragments throughout.	W – 1.12m D – 0.06m	-
505	Furrow	Linear furrow aligned north-west to south-east with shallow irregular profile. Excavated example of a number throughout the trench.	W – 1.12m D – 0.06m	-



Trench 5, general view, looking south-west Fig 25

Trench No.	Length, width & alignment		Surface height, N end (aOD)	Depth & height of natural (aOD)
6	N-S 1.8 x 50m		126.51m	0.20 – 0.22m 126.31 – 126.29m
Context	Context type	Description	Dimensions	Artefacts/Samples
601	Topsoil	Mid grey-brown clay silt with sub-angular ironstone fragments throughout.	0.20 – 0.22m thick	-
602	Natural	Mid orange-brown silty clay and ironstone.	-	-



Trench 6, general view, looking north Fig 26

Trench No.	Length, width & alignment		Surface height, NE end (aOD)	Depth & height of natural (aOD)
7	NE-SW 1.8 x 50m		124.01m	0.10 – 0.21m 123.91m – 123.80m
Context	Context type	Description	Dimensions	Artefacts/ Samples
701	Topsoil	Mid grey-brown clay silt with sub-angular ironstone fragments throughout.	0.10 – 0.21m thick	-
702	Natural	Mid orange-brown silty clay and ironstone.	0.23 – 0.29m thick	-
703	Fill of [704]	Friable mid grey-brown silty clay with occasional small sub-angular ironstone fragments throughout.	W – 0.55m D – 0.20m	Pottery, animal bone
704	Gully	Linear gully aligned north-west to south-east with U-shaped profile and concave base.	W – 0.55m D – 0.20m	-
705	Fill of [706]	Friable light brown-grey sandy silt with frequent sub-angular ironstone fragments and occasional flecks of charcoal throughout.	W – 1.77m D – 0.97m	Pottery, animal bone
706	Ditch	Large linear ditch aligned north-west to south-east with steep sided U-shaped ditch and concave base.	W – 1.77m D – 0.97m	-
707	Fill of [708]	Compact mid red-brown clay silt with frequent small to medium ironstone fragments throughout.	W – 2.00m D – 0.22m	-
708	Furrow	Wide, shallow linear furrow aligned approximately north-west to south-east.	W – 2.00m D – 0.22m	-
709	Fill of [710]	Firm mid brown-grey clay silt with frequent small to large ironstone fragments throughout. Occasional burnt stone and charcoal throughout.	W – 0.73m D – 0.45m	Pottery, animal bone, flint
710	Ditch	Linear ditch with steeply sloping sides, U-shaped profile and concave base.	W – 0.73m D – 0.45m	-
711	Fill of [715]	Firm mid grey-brown clay silt with frequent small to medium ironstone fragments throughout and occasional burnt stone, flint and charcoal throughout.	W – 0.50m D – 0.48m	Pottery, animal bone, flint
712	Fill of [715]	Firm mid brown-grey clay silt with frequent ironstone fragments and moderate amount of charcoal throughout.	W – 1.60m D – 0.30m	Pottery, animal bone, flint
713	Fill of [715]	Friable mid yellow-brown sandy silt with clay inclusions. Frequent small to medium ironstone fragments and occasional charcoal flecks throughout.	W – 0.90m D – 1.00m	Pottery, animal bone, flint

714	Fill of [715]	Friable mid brown-grey sandy silt with small ironstone fragments throughout and frequent charcoal flecks.	W – 0.60m D – 0.30m	Pottery, animal bone
715	Ditch	Large linear enclosure ditch aligned north-west to south-east with steeply sloping edges, V-shaped profile and a narrow flat base.	W – 1.70m D – 1.30m	-



Trench 7, general view, looking north-east Fig 27

Trench No.	Length, width & alignment		Surface height, NW end (aOD)	Depth & height of natural (aOD)
8	NW-SE 1.8 x 25m		122.81m	1.40 – unknown 121.41m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
801	Topsoil	Friable mid-dark brown sandy clay with small fragments of ironstone throughout.	0.30 – 0.38m thick	-
802	Layer	Light brown-yellow silty sandy clay with medium to large fragments of ironstone throughout.	0.20 – 0.39m thick	-
803	Layer	Mid-dark brown silty clay with small to large fragments of ironstone and charcoal flecks throughout.	0.80 – 0.88m thick	Pottery
804	Layer/ Natural	Mid yellow brown silty clay with areas of very large ironstone slabs throughout.	0.10 – 0.13m thick	-



Trench 8, general view, looking north-west Fig 28

Trench No.	Length, width & alignment		Surface height, NW end (aOD)	Depth & height of natural (aOD)
9	NW-SE 1.8 x 50m		122.23m	0.27 – 0.47m 121.96m – 121.76m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
901	Topsoil	Light grey-brown sandy silt with occasional sub-angular stones throughout.	0.25 – 0.35m thick	-
902	Subsoil	Light orange-brown sandy silt with frequent ironstone throughout.	0.02 – 0.12m thick	-
903	Natural	Light orange-brown sandy silt with occasional ironstone throughout at north-west end. At south-east end comprised compact ironstone.	-	-



Trench 9, general view, looking south-east Fig 29

Trench No.	Length, width & alignment		Surface height, NE end (aOD)	Depth & height of natural (aOD)
10	NE-SW 1.8 x 50m		119.15m	0.26 – 0.50m 118.89m – 118.65m
Context	Context type	Description	Dimensions	Artefacts/ Samples
1001	Topsoil	Light grey-brown sandy silt with occasional sub-angular stones throughout.	0.26 – 0.28m thick	-
1002	Subsoil	Light red-brown sandy silt with occasional ironstone fragments throughout.	0.00 – 0.22m thick	-
1003	Natural	Mixed light orange-brown sandy silt with frequent ironstone throughout and light red-brown sandy silty clay.	0.06 – 0.12m visible	-
1004	Fill of [1005]	Friable light grey-brown sandy silt with medium to large ironstone fragments and occasional charcoal flecks throughout.	W – 0.95m D – 0.30m	Pottery
1005	Ditch	Linear ditch aligned approximately east to west with asymmetrical U-shaped profile and concave base.	W – 0.95m D – 0.30m	-
1006	Fill of [1007]	Light grey-brown sandy silt with infrequent ironstone throughout.	W - 2.4m	Pottery, glass
1007	Furrow	Wide linear furrow aligned north-west to south-east. Not excavated.	W – 2.4m	-



Trench 10, general view, looking north-east Fig 30

Trench No.	Length, width & alignment		Surface height, NE end (aOD)	Depth & height of natural (aOD)
11	NE-SW 1.8 x 50m		117.87m	0.15 – 0.35m 117.72 – 117.52m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
1101	Topsoil	Dark grey-brown sandy silt with small to large ironstone fragments throughout.	0.15 – 0.35m thick	-
1102	Natural	Light brown-red sand with bands of ironstone throughout.	-	-
1103	Fill of [1104]	Friable light grey-red silty sand with small fragments of ironstone throughout.	W – 1.16m D – 0.18m	-
1104	Furrow	Linear furrow aligned north-west to south-east with irregular bowl-shaped profile.	W – 1.16m D – 0.18m	-



Trench 11, general view, looking south-west Fig 31

Trench No.	Length, width & alignment		Surface height, E end (aOD)	Depth & height of natural (aOD)
12	E-W 1.8 x 50m		113.13m	0.51 – 0.85m 112.62– 112.28m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
1201	Topsoil	Dark grey-brown silty sand with small fragments of ironstone throughout.	0.25 – 0.30m thick	-
1202	Colluvium	Firm light red-brown sand-sandy silt with rare ironstone fragments throughout.	0.26m – 0.55m thick	-
1203	Natural	Light grey-brown sand	-	-



Trench 12, general view, looking east Fig 32

Trench No.	Length, width & alignment		Surface height, NE end (aOD)	Depth & height of natural (aOD)
13	NE-SW 1.8 x 50m		114.71m	0.50 – 0.83m 114.21m – 113.88m
<i>Context</i>	<i>Context type</i>	<i>Description</i>	<i>Dimensions</i>	<i>Artefacts/Samples</i>
1301	Topsoil	Friable mid brown silty clay.	0.25 – 0.35m thick	-
1302	Subsoil	Mid orange-brown silty clay with occasional ironstone fragments throughout.	0.15 – 0.55m thick	-
1303	Natural	Light brown-orange silty clay with patches of light grey clay.	-	-
1304	Fill of [1305]	Firm mid-dark orange-brown silty clay with occasional small to medium ironstone inclusions.	W – 2.60m (exc) D – 1.00m	Pottery, animal bone
1305	Linear feature	Wide linear feature aligned approximately north-west to south-east. Shallow sloping south western edge with a sharp break in slope and flat base.	W – 2.60m (exc) D – 1.00m	-
1306	Fill of [1307]	Firm mid-dark orange-brown silty clay with occasional small to medium ironstone inclusions.	W – 1.75m (exc) D – 0.55 (exc)	SF1, Sample 1
1307	Linear feature	Part of north-eastern edge of wide linear feature [1305]. Irregular edges and channels in the base of the excavated part.	W – 1.75m (exc) D – 0.55 (exc)	-



Trench 13, general view, looking south-west Fig 33

APPENDIX B: CATALOGUE OF CHARRED PLANT MACROFOSSILS AND OTHER REMAINS

Sample No.	1	2	3	4
Context No.	1304	405	712	714
Feature No.	1305	407	715	715
Feature type	Feature	Ditch	Ditch	Ditch
Date	?	IA	IA	IA
Cereals				
<i>Avena</i> sp. (grain)	xcf	-	-	-
<i>Hordeum</i> sp. (grains)	-	x	-	x
<i>Triticum</i> sp. (grains)	x	x	x	x
(glume base)	-	-	x	-
(rachis internode)	-	-	-	x
<i>T. spelta</i> L. (glume base)	-	-	-	x
Cereal indet. (grains)	x	xfg	x	xfg
Herbs				
<i>Arrhenatherum</i> sp. (tuber frag.)	-	-	x	-
<i>Bromus</i> sp.	-	-	x	x
Fabaceae indet.	-	-	-	x
<i>Medicago/Trifolium/Lotus</i> sp.	xcf	xcf	xcf	xcf
Small Poaceae indet.	-	-	x	-
Large Poaceae indet.	-	-	-	x
<i>Raphanus raphanistrum</i> L. (siliqua)	x	-	-	-
<i>Rumex</i> sp.	-	x	x	-
<i>R. acetosella</i> L.	-	-	x	-
Wetland plants				
<i>Carex</i> sp.	-	-	x	-
Tree/shrub macrofossils				
<i>Corylus avellana</i> L.	-	x	-	-
<i>Sambucus nigra</i> L.	x	-	-	-
Other plant macrofossils				
Charcoal <2mm	xx	xxxx	xxxx	xxxx
Charcoal >2mm	x	x	xx	xx
Charcoal >5mm	x	xx	xx	xx
Charcoal >10mm	-	x	x	xx
Charred root/stem	x	-	-	-
Indet. seeds	x	-	x	-
Other remains				
Black porous 'cokey' material	-	x	xx	x
Black tarry material	-	x	xx	-
Bone	x	-	x	xxb
Burnt/fired clay	-	-	-	x
Ferrous globule	-	-	x	-
Mineralised soil concretions	-	-	-	xxxx
Small coal frags.	xx	-	-	x
Small mammal/amphibian bones	x	-	-	x
Vitreous material	x	-	x	-
Sample volume (litres)	-	-	-	-
Volume of flot (litres)	<0.1	<0.1	<0.1	0.1
% flot sorted	100%	100%	100%	100%

x = 1 – 10 specimens xx = 11 – 50 specimens xxxx = 100+ specimens
 cf = compare fg = fragment b = burnt

Ditch = enclosure ditch
 IA = Iron Age



MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
business@mola.org.uk