Northamptonshire Archaeology

Archaeological geophysical survey and trial trench evaluation on land off School Lane, Hartwell, Northamptonshire

Northamptonshire Archaeology
2 Bolton House
Wootton Hall Park
Northampton NN4 8BE
t. 01604 700493 f. 01604 702822
e. sparry@northamptonshire.gov.uk
w. www.northantsarchaeology.co.uk

Northamptonshire County Council

Jim Burke, Adam Yates and Ian Fisher

Report 10/175

November 2010

STAFF

Project Manager	Adam Yates BA AIfA
Text	Jim Burke, Adam Yates and Ian Fisher BSc
Fieldwork	Adrian Adams, Jim Burke, Sam Eagan, Peter Haynes and Myk Riley
Illustration	Amir Bassir BSc
Worked shale	William A. Boismier BA MPhil MA PhD MIfA
Iron Age pottery	Andy Chapman BSc MIfA FSA
Late Iron Age and Roman pottery	Tora Hylton
Ceramic Building Material	Pat Chapman BA CMS AIfA
Iron objects	Tora Hylton
Animal bone	Karen Deighton MSc
Palaeoenvironmental assessment	Karen Deighton

QUALITY CONTROL

	Print name	Signature	Date
Checked by	Pat Chapman		
Verified by	Adam Yates		
Approved by	Andy Chapman		

OASIS REPORT FORM

PROJECT DETAILS		
Project title	Geophysical survey and archaeological evaluation on land off School Lane, Hartwell, Northampton.	
Short description	A geophysical survey and trial trench evaluation was carried out on land at School Lane, Hartwell, Northamptonshire on behalf of Bellway Homes Ltd. The geophysical survey identified several anomalies of possible archaeological origin. Trial trenching confirmed these as representing late Iron Age/early Roman enclosures, and features associated with medieval and post-medieval land use.	
Project type	Geophysical survey and trial trench evaluation	
Site status	Arable	
Previous work	Archaeological appraisal (Gifford 2009)	
Current land use	Arable	
Future work	Unknown	
Monument type/period	-	
Significant finds	Late Iron age and early Roman pottery	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Land off School Lane, Hartwell Northamptonshire	
Study area	2.35 ha	
OS Easting & Northing	478835 250290	
Height OD	44m	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Northamptonshire County Council	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Jim Burke	
Project Manager	Adam Yates	
Sponsor or funding body	Bellway Homes Ltd	
PROJECT DATE		
Start date	18 October 2010	
End date	22 October 2010	
ARCHIVES	Location	Content
Physical	Project code: HSL 10	1 archive box of pottery and bone
Paper		1 archive box of site records and photos plus 5 sheet of drawings
Digital		Copy of report, digital photos
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Geophysical survey and archaeological evaluation on land off School Lane, Hartwell, Northampton.	
Serial title & volume	10/175	
Author(s)	Jim Burke, Adam Yates and Ian Fisher	
Page numbers		
Date	November 2010	

Contents

Figures

ARCHAEOLOGICAL GEOPHYSICAL SURVEY

AND TRIAL TRENCH EVALUATION

ON LAND OFF SCHOOL LANE

HARTWELL, NORTHAMPTONSHIRE

NOVEMBER 2010

ABSTRACT

A geophysical survey and trial trench evaluation was carried out on land at School Lane, Hartwell, Northamptonshire on behalf of Bellway Homes Ltd. The geophysical survey identified several anomalies of possible archaeological origin. Trial trenching confirmed these as representing late Iron Age/early Roman enclosures, and features associated with medieval and post-medieval land use.

1 INTRODUCTION

Bellway Homes Ltd commissioned Northamptonshire Archaeology to undertake archaeological work on the proposed development site on land off School Lane, Hartwell, Northamptonshire (NGR 478835 250290, Fig 1). The works have been required in response to a reserved matter application submitted by Bellway Homes for new housing (S/2010/1131/MAR) and an application to construct a balancing pond in order to secure discharge on one of the conditions of a previous consent (S/2010/1135/FUL).

The development area is located within the northern half of an arable field on the eastern edge of Hartwell village. The area designated for housing occupies an area of approximately 2.2ha and the balancing pond 0.15ha. The northern-western boundary of the site is formed by the Hartwell Church of England Primary School. To the north-east is the Community centre and playing fields. To the south-east and south-west are fields. Geology is glacial till.

2 BACKGROUND

An archaeological appraisal of the development has been undertaken by Gifford (2009). There are a number of archaeological features identified of archaeological interest within and around the development area (Fig 2). Of most relevance are the remains of a medieval field system identified from aerial photography which runs along the south-eastern edge of the development area (MNN125268) which links up to a more extensive area of earthworks to the south-west including a hollow way (MNN125266), possible medieval enclosure (MNN125267) and field system (MNN125270). The remains of a Second World War military site incorporating a blast shelter are present 30m to the north-east of the site (MNN2895, MNN31094, MNN31095 and MNN33311).

3 AIMS AND OBJECTIVES

The purpose of the work (as defined by the approved written scheme of investigation) was to determine and understand the nature, function and character of the

archaeological site in its cultural and environmental setting.

The aims of the investigation were to:

- Establish the date, nature and extent of activity or occupation on the development site
- Recover artefacts to assist in the development of type series within the region
- Recover palaeo-environmental remains to determine local environmental conditions

4 GEOPHYSICAL SURVEY by Ian Fisher

4.1 Methodology

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003) and a Geoscan FM256. These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanotesla (nT).

The survey area was divided into 30m grid squares. A tape measure and optical square were used to set out the field. The grid was measured in against permanent features. The gradiometers were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per grid.

All fieldwork methods complied with the guidelines issued by English Heritage, and by the Institute for Archaeology (EH 2006, EH 2008; Gaffney, Gater and Ovendon 2002, IfA 2010).

The survey data was processed using Geoplot 3.00u software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of greyscale plots (scale +4nT to -4nT black ~ white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 3). An Interpretative plot has been produced and shown overlain onto the data (Fig 4).

4.2 Survey results

The survey results show a number of linear and discrete anomalies. The most prominent feature in the survey results is a ditch and bank that may relate to earthworks in an adjacent field to the south. The ditch and bank are orientated north-east to south-west before turning 90 degrees to extend north-west out of the survey area. The linear anomalies represent buried ditches that once formed enclosures.

A discrete anomaly indicating a possible pit was identified. An area of ceramic debris in the northern corner of the site probably represents dumping possibly associated with recent construction. Ridge and furrow cultivation was present on a north-east to south-west alignment.

5 TRIAL TRENCHING

5.1 Methodology

Fifteen trenches each 20m in length were excavated in order to examine the geophysical survey anomalies and 'bank' areas (Fig 5).

Overburden was removed with a wheeled mechanical digger fitted with a 1.8m-wide toothless ditching bucket to expose the first significant archaeological level, or in the absence of archaeology, the geology. Cleaning of exposed surfaces, hand excavation and recording progressed in accordance with the methodology set out in the Written Scheme of Investigation (NA 2010) and brief (NCC 2010) and in fulfilment of the standards set by the Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluations* (IfA 2008) and *Code of Conduct* (IfA 2010). Works complied with the English Heritage's *Management of Research projects in the Historic Environment* (2006).

Following the completion of the work the trenches were backfilled with the excavated material.

5.2 General comments

The geology generally comprised glacial till, exposed as mid grey clay containing unsorted chalk, flints and pebbles. Gravel deposits were present in Trenches 14 and 15.

Features of archaeological significance were present in Trenches 1 to 8 and 13. Tree throws were noted in Trenches 1-3 and 13. Ridge and furrow was present in most of the trenches in an eat-westerly direction, corresponding with the geophysical survey, together with modern plough scars. Post-medieval field boundaries were present in Trenches 2 and 3. Backfilled geotechnical test pits were seen in trenches 1 and 3.

The topsoil and remaining subsoil were singular throughout the site, due to the modern ploughing of the land both deposits were merged and little distinction could be defined.

5.3 Trench 1

The bank identified from geophysical survey was present within this trench (Figs 6 and 8). The base of this was formed from a metalled surface (108) comprising a layer of mixed stone and cobbles, set into the natural clay from which a piece of post-medieval tile was recovered. Overlying this was a deposit of silty mottled grey-brown loamy clay (109), 0.16m deep. This appears to form a continuation of the trackway seen in Trench 13 (see below), and is likely to be associated with the medieval earthworks to the south-west. The bank and trackway had been cut by two geotechnical test pits.

5.4 Trench 2

This trench contained three linear features, two of which corresponded with geophysical survey features.

At the western end of the trench was a recut ditch that corresponded with an L-shaped geophysical anomaly, and continued into Trench 5. The earlier ditch [204] was aligned north-west to south-east, and was 1.2m in width, with steeply sloping sides to an uneven base 0.9m deep (Figs 6, 7 Section 1 and 9). The single fill of mid orange-brown organic silty clay (205) produced fragments of late Iron Age/early Roman pottery and animal bone (1 cattle and 1 sheep/goat). Recut [206] was on the same alignment as the earlier

ditch and wholly within the edges of the previous ditch. It was 0.84m wide and 0.65m deep, with a V-shaped profile with steeply sloping sides. The fill (207) of dark grey-black organic silty clay contained mid-late Iron Age and late Iron Age/early Roman pottery, fired clay, cattle and pig bone and heat affected stone. A sample taken from this context produced significant amounts of charcoal and some charred cereal grains (Sample 2). Overlying ditch [206] was a thin levelling layer of orange brown silty clay (208).

Ditch [214] in the central part of the trench (Figs 6, 7 Section 2 and 10) which had not been detected by geophysical survey contained a fill of mid orange-brown silty clay (215). No dating was present from the fill.

At the north-eastern end of the trench was a wide shallow feature (Figs 6 and 7 Section 3) corresponded with the linear geophysical anomaly that ran parallel to the north-east edge of the field. Two parallel gullies [209] and [211] lay 4.5m apart, each approximately 0.9m wide and 0.2m deep, filled with mid grey-brown silty clays, (210) and (212). Worn into the natural between them were a number of shallow linear depressions, perhaps representing wheel ruts. The base of the subsoil had been mixed into the underlying natural clay, perhaps as a result of disturbance from traffic. This feature appears to represent a trackway, and whilst no dating was retrieved from the excavated sections, it may be associated with the trackway seen in Trenches 1 and 13, in which case a medieval or post-medieval date seems likely.

5.5 Trench 3

This trench contained a single feature [304] that corresponded with the linear geophysical anomaly that ran parallel to the north-east edge of the field. This is a continuation of [209] and [211] seen in Trench 2, and was not excavated here, due to modern disturbance.

5.6 Trench 4

This trench contained a single feature [404] on the south-western limit of the trench (Figs 6, 7 Section 4 and 11), which corresponded with a curvilinear geophysical anomaly which was also found in Trench 6. It was not possible to bottom this feature as it extended below safe working depths. It had steeply sloping sides, which flared out at the top. The lowest fill exposed (405) was a slump deposit comprising orange-brown silty clay, overlain by a dark brown silted clay (406), that produced late Iron Age/early Roman pottery, charcoal and weed seeds (Sample 4). Overlying this was mid-brown sandy orange silty clay (407) containing mid-late Iron Age pottery.

No feature was present to correspond with the geophysical anomaly in the north-eastern part of the trench.

5.7 Trench 5

Trench 5 contained a ditch (Figs 6, 7 Section 5 and 12) which corresponded with the L-shaped geophysical anomaly which extended into Trench 2.

The cut for the ditch [504] was 1.8m wide and at least 1.3m deep, although it was not possible to bottom this feature as safe working depths had been reached. It had steeply sloping sides, which flared out at the top. The lowest fill encountered (505) comprised mottled dark grey-orange brown organic silty clay containing some fired clay, significant amounts of charcoal and some charred cereal grains (Sample 1). This was overlain by organic light brown silty clay (506) that contained late Iron Age/early Roman pottery and

cattle bone. These fills appear to represent the accumulation of silts in the base of the ditch in a wet environment within which organic debris, possibly deriving from domestic waste, has been incorporated. Overlying (506) was a slump deposit (508) on the north-west side of the ditch, comprising light brown silty clay. This was followed by an episode of silting represented by a substantial deposit of brown silty clay (507) containing mid-late Iron Age pottery, before the ditch was finally infilled by a dump of dark brown clay loam (509).

5.8 Trench 6

This trench contained a single ditch (Figs 6, 7 Section 6 and 13) which corresponded with a curvilinear geophysical anomaly. The ditch [604] was 2.45m in width and 1.15m deep, with sloping sides and a concave base, containing a sequence of 3 fills derived from silting. The basal fill (605) comprised dark grey-brown silty clay overlain by mid grey brown silty clay (606) which was in turn overlain by further mid grey-brown silty clay (607). Late Iron Age/early Roman pottery was recovered from (606) together with cattle bone and sheep/goat bone.

5.9 Trench 7

This trench contained a single ditch (Figs 14, 15 Section 7 and 16) which corresponded with a curvilinear geophysical anomaly. The ditch [705] was 1.90m wide and 0.60m deep, with sloping sides and a concave base, containing a single fill (704) comprising mid grey-brown silty clay.

5.10 Trench 8

This trench contained a single ditch (Figs 14, 15 Section 8 and 17) which corresponded with a curvilinear geophysical anomaly. The ditch cut [809] was 2.4m in width and 1.4m deep, with steeply sloping sides and an uneven base containing six fills, all derived from silting. The primary fill was mottled brown-grey silty clay (808) was derived from reworking of the base of the feature through water action or from slumping of natural deposits on the sides of the ditch. This was overlain by (in order) mid blue-grey silty clay with orange mottles (807); mid brown-grey clay with orange mottles (806); dark blue grey silty clay with orange mottling (805); light yellow-grey silty clay (804); and finally dark grey-brown silty clay with orange mottles (803). All the fills contained occasional small stones and charcoal flecks, and late Iron Age/early Roman pottery and cattle bones were recovered from contexts (803), (805), (806) and (808). A sample taken from (805) produced some charcoal and a significant quantity of mollusc shells, indicating the ditch held standing water (Sample 3).

5.11 Trench 13

Trench 13 contained an oblique feature (Figs 14, 15 Section 9 and 18) that aligned north-east to south-west that corresponded with a geophysical anomaly. This was cut by a gully along its northern edge and two further parallel shallow gullies were present to its north and south.

The oblique feature [1304] measured 4.30m wide and 0.60 deep. At its base was a cambered metalled surface (1305) made from mixed stones and cobbles set into the underlying natural clay. This was overlain by mid grey brown silty clay (1306), which produced half of a modern frogged brick and a fragment of post-medieval tile. Its northern edge [1304] was cut by a V-shaped gully [1307], 0.73m wide and 0.34m deep, with a fill of orange sandy gravel (1308).

The two parallel U-shaped gullies, [1309] and [1311], to the north and south were separated by approximately 1.5m from [1304]. These were both shallow, being no more than 0.7m wide and 0.15m deep, and filled with orange brown silty clays, (1310) and

(1312).

This group of features appears to represent a trackway or hollow-way bounded on either side by shallow gullies, perhaps denoting former hedge lines. Although it is likely to be associated with the medieval earthworks to the south-west, the frogged brick may indicate a relatively recent date for the final infilling of this feature.

6 FINDS

6.1 The Iron Age pottery by Andy Chapman

Three contexts produced 24 sherds, weighing 395g, which belong to hand-built vessels in fabrics typical of the middle-late Iron Age. This material is associated with deposits that contained wheel-thrown vessels dated to the 1st century AD, and is assumed to be residual in these contexts. Its presence indicates that occupation probably began in the 1st century BC, if not earlier, and continued until the late 1st century AD. A few sherds in these groups are probably late Iron Age in date, and may derive from hand-built vessels contemporary with the late Iron Age/early Roman assemblage.

Table 1: Quantification of Iron Age pottery

Context/ feature	sherds	weight (g)	sherd families
207/206	4	210	4
407/404	2	60	2
507/504	18	125	2
Totals	**24**	**395**	**8**

The fill (207) of a ditch recut [206], contained four sherds from four vessels. The three sherds in a shelly fabric comprised a body sherd from a thick-walled vessel, a simple rounded rim probably from a bowl form, and a body sherd from a thick-walled jar, 10mm thick, with scored decoration. These are all vessels of middle to late Iron Age date. In addition there is a single sherd in a grog-tempered fabric from a thick-walled jar, 18mm thick, which would belong to the late Iron Age, the late 1st century BC to mid 1st century AD.

The upper fill (407) of ditch [404] contained two sherds from hand-built vessels in a sandy fabric, which may be late Iron Age in date, perhaps 1st century BC.

The upper secondary fill (507) of ditch [504] contained 17 plain body sherds from a hand-built vessel in a fabric with a grey-black core and inner surface and a light brown external surface, and containing dense coarse shell, often 4-9mm across. This vessel appears to be broadly Iron Age in date, but the context also contains a single sherd in a similar fabric but with a brown smooth external surface that may be wheel-finished.

6.2 The late Iron Age/early Roman pottery by Tora Hylton

There are 97 sherds of late Iron Age/early Roman pottery, weighing 1,383g (Table 2). The pottery was recovered from eight individual deposits in Trenches 2, 4, 5, 6 and 8. The assemblage comprises locally produced wares dating from the mid/late 1st century AD and some of the forms may be paralleled by examples recovered from the nearby Belgic and Roman settlement at Quinton (Friendship-Taylor 1979). Although the condition of the pottery is good and there is minimal evidence of wear or abrasion, there are very few

diagnostic sherds. The average sherd weight is relatively low at 14.3g.

The assemblage comprises entirely locally manufactured coarsewares in shell-gritted (57% by weight) and grog-tempered fabrics (43% by weight). Shell-gritted wares are represented by a channel-rim jar with incised motif on the outer edge of the rim (cf. Friendship-Taylor 1979, fig 32, 1), a large storage jar decorated with vertical combing and jars with everted rims. The grog-tempered wares are characterised by pale red/brown/buff surfaces and a black/grey core, the fabric is not hard fired and is generally soapy to touch. Identifiable forms comprise a platter, narrow-necked jars with girth grooves or shoulder grooves and a large storage jar with incised shoulder decoration.

Conclusion

The assemblage is dominated by locally produced wares dating from the mid/late 1st century AD. In conjunction with the Iron Age material (see report by Andy Chapman), it alludes to a continuation of settlement from the late Iron Age to early Roman period. No later Roman pottery was recovered.

Table 2: Quantification of late Iron Age/early Roman pottery

Fabric type	**Context/feature**							
	205/ 204		406/404		506/504		606/604	
	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)
Grog-tempered ware	--	--	--	--	--	--	19	258
Shell-gritted ware	4	48	1	9	1	18	11	209
Total	4	48	1	9	1	18	30	467

Fabric type	**Context/feature**							
	803/809		805/809		806/809		808/809	
	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)
Grog-tempered wares	3	115	22	209	1	1	7	9
Shell-gritted ware	2	12	26	495	--	--	--	--
Total	5	127	48	704	1	1	7	9

6.3 Fired clay and ceramic building material by Pat Chapman

Fired clay

There are six small fragments of fired clay, weighing 38g from late Iron Age to early Roman deposits, fills (207) and (505). These are irregularly-shaped, composed of slightly soft clay coloured orange and black, debris from a hearth or other heating process.

Ceramic building material

Seven fragments of brick and tile, one from Trench 1, four pieces from a furrow in Trench 5 and two from a gully in Trench 13, together weigh 213g, and nearly half a brick weighing 860g, also comes from layer (1306) in Trench 13.

A small fragment of hard orange flat roof tile, 10mm thick, comes from metalled surface (108). Two tile fragments from the furrow in Trench 5 comprise a fragment of flat roof tile, 10mm thick, made from very hard red-brown clay, with the remnants of white lime mortar adhering to the rough underside; and a possible floor tile fragment made from hard orange clay with only traces of the original surface remaining.

The two probable fragments of brick, also from Trench 5, are made from hard silty pale red-brown clay, with large buff grog inclusions up to 10mm wide. One of the brick fragments has a black surface.

Part of a brick comes from the bottom of a ditch in trench 13. It is 102mm wide and 65mm thick (4x2⅝ inches), adhering to the British Standards 657 of 1936 and 3921 of 1969. The wide frog is 30mm deep leaving a 15mm wide rim around the brick, however, the maker's name stamped in the frog has been lost, just a possible 'L' surviving. Although the surface of the brick is very smooth, the fabric is very harsh, being made from hard pinkish-brown clay full of ironstone, shell and other calcareous inclusions, a few of which have broken through the surface.

A gully, also in trench 13, contained the corner of a thin brick or thick tile, 43mm thick, made from very hard orange clay with a black core and one very smooth worn surface, possibly from being laid in a floor. A very small fragment of tile also survived.

The brick and tile are all post-medieval in date.

6.4 **Iron objects** by Tora Hylton

Two iron small finds were recovered from (1307) in Trench 13. The finds include an undiagnostic sheet fragment (73 x 45mm) with a broad outside edge and a square-sectioned nail shank with clenched terminal. No other small finds were recovered.

7 FAUNAL AND ENVIRONMENTAL EVIDENCE

7.1 **Animal bone** by Karen Deighton

A total of 1.3kg of animal bone was collected by hand from eight contexts during the course of trial trenching. This material was assessed to establish the taxa present, the level of preservation, and the potential contribution to the understanding of the site and to inform on future collection strategies.

Method
Identifiable bones were noted. Ageable and measurable bones (after Von Den Driesch 1976) were also noted. Ageable elements included cheek tooth rows, where tooth eruption and wear can be observed (Payne 1973 and Halstead1985) and bones where the state of epiphyseal fusion could be observed (Silver 1969). Animal bone from wet sieving (3.4mm and 1mm residues) was also included; sample sizes varied with context but were typically between 10 and 40 litres. Hand collected bones had previously been washed.

Preservation
Fragmentation varied with context but was mostly heavy. Surface abrasion was at a low level. Only three instances of canid gnawing were noted and no evidence for butchery

was noted.

Taxa present
Animal bone species present are summarised in Table 3.

Table 3: Animal bone taxa by context

Cut/fill	Feature	Date	Cattle	Sheep/goat	pig	total
204/205	ditch	I.A.	1	1		**2**
206/207	Recut ditch	I.A.	5		1	**6**
504/505	ditch	I.A	1			**1**
604/606	ditch	L.I.A.	1	2		**3**
809/803	ditch	I.A/Roman	2			**2**
809/805	ditch	I.A/Roman	3			**3**
809/806	ditch	I.A/Roman	1			**1**
809/808	ditch	I.A/Roman	2			**2**
Total			**16**	**3**	**1**	**20**

Context 507 produced indeterminate bone fragments only

Sieved bone
Animal bone species recovered from sieved samples is summarised in Table 4.

Table 4: Animal bone from sieved samples

Cut/fill	Sample	Feature	Weight(g)	Sheep/goat	L. ungulate	Indeterminate bone
504/505	**1**	**ditch**	**6**			**11**
206/207	**2**	**Recut ditch**	**40**	**1**	**1**	**41**
809/805	**3**	**ditch**	**2**			**3**
Total				**1**	**1**	**55**

Ageing and sexing data
Aging and sexing data is summarised in Table 5

Table 5: Aging and sexing data

Taxa	Tooth eruption and wear	Epiphyseal fusion	Sexing data
Cattle	1	6	2
Sheep/goat	1	2	
pig	1		

Discussion
Little can be said of the animal husbandry or economy of the site, due to the paucity of bone available, beyond the fact that a small range of common domesticates were exploited here and all are the taxa expected for the Iron age and Roman periods.

.

Potential
Identifiable bone was present along with some ageing and sexing data. This indicates that if further bone were collected from suitable contexts during the course of any subsequent excavation it may be possible to provide statements about the husbandry practiced at the site and/or the diet of its occupants and thereby contribute to the understanding of its economy and function.

Conclusion
Assessment has shown a small assemblage of common domesticates and indicates that future collection and analysis of bone would be of some value should further excavation take place.

7.2 Environmental samples by Karen Deighton

A total of 4 samples were collected by hand from a range of contexts during the course of excavation. This material was processed and assessed to determine the presence, preservation and nature of any ecofacts and to inform on further sampling strategies.

Method
The samples were processed using a modified siraf tank fitted with a 250micron mesh and flot sieve. The resulting flots and residues were dried. The flots were then sorted with the aid of a stereoscopic microscope (10x magnification) and residues were scanned. Any charred plant remains were identified with the aid of the author's small reference collection and Jacomet 1996 and the SCRI website. The molluscs were identified with the aid of Glöer and Meier-Brook (2003) and Kerney and Cameron (1994) and the conchological society website.

Preservation
Preservation for plant remains was solely by charring. Again for plant remains fragmentation was low, but surface abrasion was fairly heavy. Preservation of mollusc was excellent.

Taxonomic distribution

Table 6: Ecofacts by context

Cut/fill	**505/504**	**207/206**	**809/805**	**404/406**
Sample	1	2	3	4
Feature type	ditch	ditch	ditch	ditch
Date	I.A	I.A	I.A/Roman	I.A./Roman
volume	40	40	40	40
charcoal	500+	500+	20	50
cereal	5	4		
Spelt*(T.spelta)*	2			
Wheat*(Triticum sp)*	16	1		
Naked barley (*H .vulgare* var nudum)	1			
Pulse (Leguminosae sp)				2
Fat hen (*Chenopodium album*)				2
Sheep sorel(*Rumex acetosella*)	1			
Cranesbill(Geranium sp)				1

Discussion
The wild/weed taxa present were typical crop weeds or weeds of disturbed ground, both annuals and perennials were noted. The charred plant material noted in the samples appears largely to be background, which is material washed or blown into the features from activities taking place elsewhere. The snails suggest a damp environment, indeed as Anisus sp are fresh water taxa their presence as the sole taxon in sample 3 suggests the ditch was full of standing water.

Table 7: Mollusca

Cut/fill	**505/504**	**809/805**	**404/406**
Sample	1	3	4
Vallonia costata	100+		
Clausilia bidentata	6		
Euconulus fulvus	100+		
Carychium sp	10		
Vertigo pygmaea	11		
Cochlicopa lubrica	2		
Cepaea nemoralis	2		
Anisus	2	100+	1

Potential

Ecofacts were recovered from all samples, their presence and reasonable level of preservation suggests that further sampling should not be ruled out should any further excavation take place. The fact that well preserved identifiable ecofacts are present indicates that further sampling of suitable phaseable/dateable contexts could result in the recovery of material that could aid the understanding of the site. Significant quantities of charcoal were recovered indicating this could be a useful avenue for further investigation and may inform on woodland management practices.

Conclusion

Assessment has shown a small range of well preserved ecofacts and indicates that further sampling during the course of any subsequent excavation could be viable.

8 DISCUSSION

The evaluation has identified a number of features that correspond well with the geophysical anomalies. Although in a number of cases potential features identified by geophysical survey were shown not be present, only in one case (a ditch in Trench 2) was a feature encountered by the trial trenching that had not previously been identified through geophysical survey. Accordingly, it is considered that the results of the geophysical survey and trial trenching are a reliable reflection of the extent of the archaeological remains on the site.

A number of the cropmark features shown on the Historic Environment Record (HER) were not present, either as geophysical anomalies or as features within the trial trenches. It is possible that they represent previous field boundary features which whilst visible when the aerial photographs were taken, all traces of which have subsequently been removed by ploughing.

The earliest features encountered comprise ditches relating to two areas of enclosure, in the east and west of the site. These enclosures appear to date to the late Iron Age/early Roman period, the 1st century AD, although the incorporation of mid-late Iron Age pottery in the eastern enclosure group may suggest earlier origins. These ditches are substantial and represent considerable effort on the part of the inhabitants to construct.

The eastern enclosure(s) appear to be more complex in nature, and the excavated sections through the ditches produced evidence for maintenance in the form of recutting. The fills incorporated organic material possibly deriving from domestic waste.

The western enclosure(s) appear to represent a single phase of construction. Although the ditch seen in Trench 8 is still substantial, it does not appear to have been recut and has rather been allowed to silt up over time rather than be maintained. Although the fills

contained pottery and bone which must have derived from domestic activity, the organic component seen to the east was absent.

The evaluation did not identify any features associated with occupation within the enclosures themselves, such as roundhouse ring gullies, postholes or pits. It may be that such features, typically more ephemeral that the main enclosure ditches, have been lost through medieval and post-medieval ploughing. However, the absence of such features within enclosures of this date is not unusual in Northamptonshire, as activities which would have produced them (construction of buildings, excavation of rubbish pits), do not seem to have been a common occurrence during the 1st century AD (A Chapman pers comm).

The economy of the site in the Iron Age appears to have been mixed, with some arable elements as well as a pastoral economy focussed on the raising of cattle. The lack of occupation features, although not unusual within enclosures of this period, may indicate that they at least partly functioned as stock enclosures.

The linear anomaly aligned parallel to the north-east boundary of the field and excavated in Trench 2 appears to represent a trackway. No dating was recovered. A second more substantial trackway or hollow-way was present aligned parallel to the south-eastern boundary of the site. This corresponds with a feature identified from aerial photographs on the HER and geophysical anomalies, and is probably associated with the medieval earthworks to the south-west, although the presence of post-medieval tile and modern brick may indicate that its final disuse was relatively recent.

BIBLIOGRAPHY

Bartington, G, and Chapman, C, 2003 A high-stability fluxgate magnetic gradiometer for shallow geophysical survey applications, *Archaeological Prospection*, **11**, 19-34

Brothwell, D and Higgs, E, (eds) 1969 *Science in Archaeology*, Thames and Hudson, London

Brown, J, 2009 *Cultural heritage technical development appraisal, School lane, Hartwell, South Northamptonshire*, Gifford,16353/CHA/R01

EH 2006 *Management of Research Projects in the Historic Environment*, English Heritage

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

Friendship-Taylor, R, M, 1979 *The Excavation of the Belgic and Romano-British Settlement at Quinton, Northamptonshire, Site B (1973-7)*, Journal of the Northampton Museums and Art Gallery **13**, 2-177

Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**

Glöer, P, and Meier-Brook, C, 2003 *Susswassermollusken*, DJN, Hamburg

Halstead, P L, 1985 A study of mandibular teeth from Romano-British contexts at Maxey in F Pryor and C French 1985, 219-223

IfA 2008 *Standard and Guidance for Archaeological Field Evaluations*, Institute for Archaeologists

IfA 2010 *Code of Conduct,* Institute for Archaeologists

Jacomet, S, 2006 *Identification of cereal remains from archaeological sites*, IPAS, Basel

Kerney, M, P, and Cameron, R, A, D, 1994 *Land Snails of Britain and North-west Europe*, Harper Collins, London

NA 2010 *Written scheme of investigation for archaeological work on land off School Lane, Hartwell, Northamptonshire*, Northamptonshire Archaeology

NCC 2010 *Brief for the archaeological field evaluation of land off School Lane, Hartwell, Northamptonshire*, Northamptonshire County Council

Payne, S, 1973 Kill-off patterns in sheep and goats: the mandibles from Asvan Kale, *Anatolian Studies,* **23**, 281-303

Pryor, F, and French, C, *Fenland Project Number1, The Lower Welland Valley, Volume 1*, East Anglian Archaeology, **27**

Silver, I, 1969 The ageing of domestic animals in D Brothwell and E Higgs (eds) 1969, 283-302

Von den Driesch, A, 1976 *Guide to the measurement of animal bones from archaeological sites,* Harvard University Press, Harvard

Northamptonshire Archaeology

A service of Northamptonshire County Council November 2010

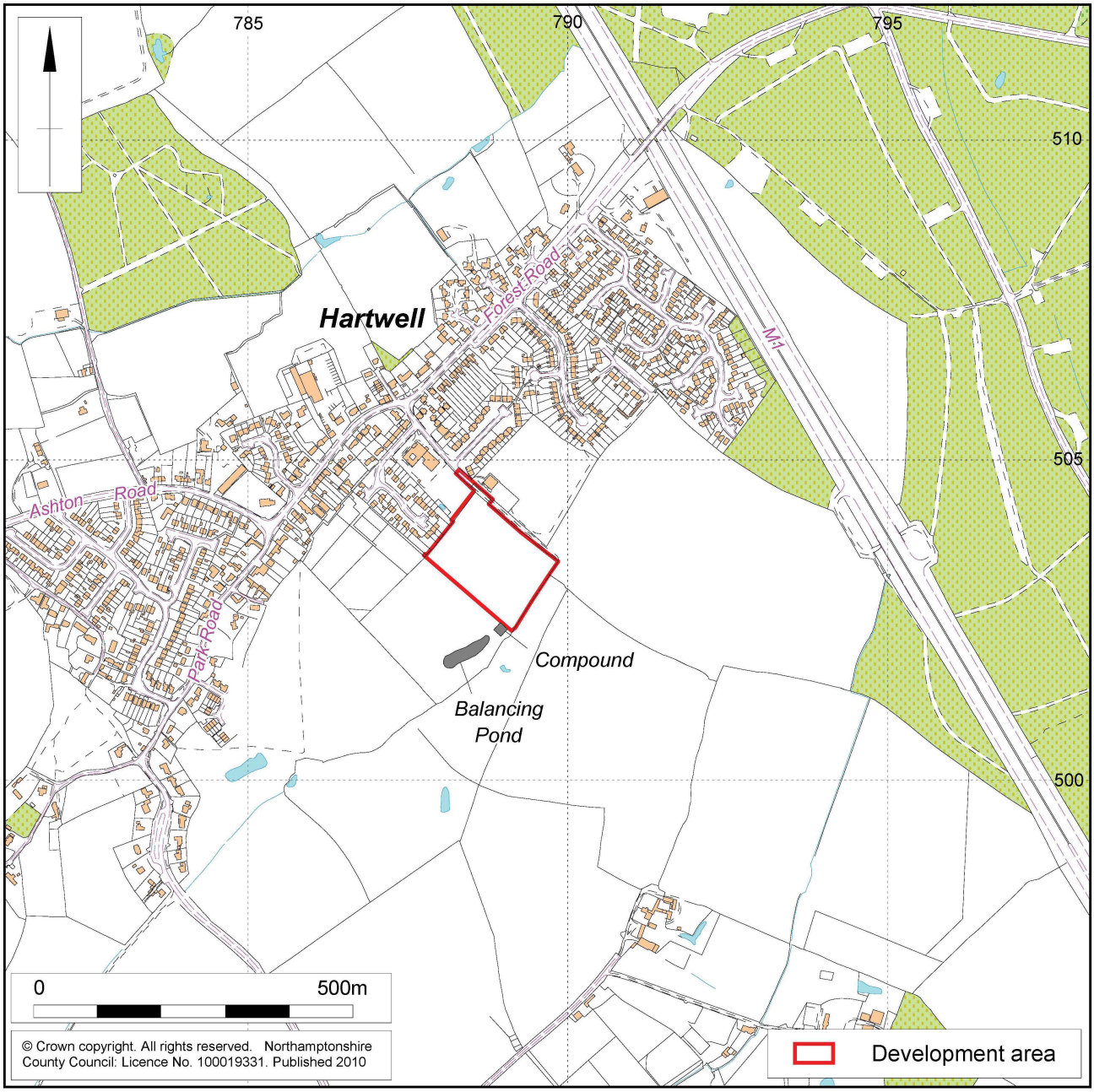
APPENDIX 1: TRENCH AND CONTEXT SUMMARY

Trench/ Context	Description	Notes
Trench 1	**Traces of plough scars, land drains, two geological test pits and furrows**	
101	Plough soil, mid grey - brown clay loam with frequent chalk, stones, flint 0.28 – 0.36m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
102	Subsoil, greyish brown visible at the western end at 0.06 – 0.10m	
103	Natural, light grey – brown silty clay, frequent chalk and flint, occasional limestone.	
104	Cut of land drain	
105	Fill of [104] mottled grey – brown, silty clay.	
106	Cut of furrow	
107	Fill of [106] same as (105)	
108	Cobbled/metalled surface, mixed stone and cobbled set with the natural clay.	Same as in trench 13 Geological test pits cut each end of this surface.
Trench 2	**Traces of plough scars, Land drains and geological test pit.**	
201	Plough soil, mid brown silty clay loam with frequent chalk, stones, flint 0.26 – 0.30m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
202	Subsoil, grey-orange mottled clay, frequent chalk, stone, 0.09-0.18m	Remains of the subsoil
203	Natural, light orange-grey clay, blue clay patches. Chalk and flint, inclusions.	
204	Cut of ditch, width 1.17m depth 0.91m	
205	Fill of [204] Orange-brown silty clay, Iron age/roman pottery animal bone, flint, chalk and cobbles	Later Iron Age-early Roman pottery, animal bone
206	Recut of [204] width 0.84m depth 0.65m	
207	Fill of recut [206] dark grey/black silty clay, regular charcoal, chalk, flint, limestone and ironstone.	Later Iron Age-early Roman pottery, animal bone
208	Fill of [206] orange-brown silty clay, frequent chalk, flint and stone	Overlies [204] and [206]
209	Cut of gully, width 0.45m depth 0.3m	
210	Fill of [209] mid brown silty clay, sub angular stone, flint, chalk.	
211	Cut of gully, width 0.45m depth 0.3m	
212	Fill of [211] mid brown silty clay, sub angular stone, flint, chalk.	
213	Trackway on edge of field, with sign of rutting.	
214	Cut of ditch, width 2.35m depth 0.62m	
215	Fill of [214] mid orange-brown silty clay, regular chalk, flint and occasional pebbles	
Trench 3	**Tree throws noted and plough scars**	
301	Plough soil, mid brown clay loam with frequent chalk, stones, flint 0.33 – 0.36m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
302	Subsoil, remains of subsoil, yellow-orange silty clay 0.08m	

Trench/ Context	Description	Notes
303	Natural, light orange-grey clay, blue clay patches. Chalk and flint, inclusions.	
304	Same as 209 – 213	Not excavated due to land drains and root disturbance on the north-eastern side of the trench
Trench 4	**Furrow noted**	
401	Plough soil, mid brown clay loam with frequent stones, 0.30-0.36m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
402	Subsoil, remains of subsoil yellow-grey clay, 0.03-0.06m deep	
403	Natural, light orange-grey clay, blue clay patches. Chalk and flint, inclusions.	
404	Cut of ditch, width 1.4m depth 1.1m	Edge of trench not fully exposed
405	Fill of [404] mottled grey-orange silty clay moderate chalk flex,	
406	Fill of [404] dark grey-brown silty clay, frequent charcoal flex	Later Iron Age-early Roman pottery.
407	Fill of [404] mottled brown, grey, orange, silty clay rare chalk and charcoal.	
Trench 5	**Furrows noted**	
501	Plough soil, mid brown-grey clay loam with frequent stones, 0.26-0.30m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
502	Subsoil remains of subsoil, mid brown sandy clay frequent chalk and stone 0.13m deep	
503	Natural, firm light mottled orange-grey clay with frequent small stones and chalk lumps	
504	Cut of ditch, width 1.82m depth 1.30	
505	Fill of [504] mottled dark grey- orange/brown silty clay, regular chalk, flint and charcoal flex.	Later Iron Age-early Roman pottery, animal bone
506	Fill of [504] light brown with lenses of dark grey-black, silty clay, regular chalk and flint	Later Iron Age-early Roman pottery
507	Fill of [504] grey-brown silty clay, regular chalk and flint, charcoal flex	Later Iron Age-early Roman pottery, animal bone
508	Fill of [504] light brown silty clay, occasional chalk flex and flint	
509	Fill of [504] dark brown loamy clay, regular chalk flex and flint with charcoal	
Trench 6		
601	Plough soil, mid grey-brown clay loam with some stones, 0.21 – 0.33m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
602	Subsoil, mid orange-brown merged with topsoil, occasional stone, 0.15-0.20m deep	
603	Natural, light brown-orange, mottled clay, regular stone	
604	Cut of ditch, width 2.45m depth 1.15m	Land drain disturbance
605	Fill of [604], dark grey-brown silty clay, occasional chalk	
606	Fill of [604], mid grey-brown silty clay, moderate flint and chalk	Later Iron Age-early Roman pottery, animal bone

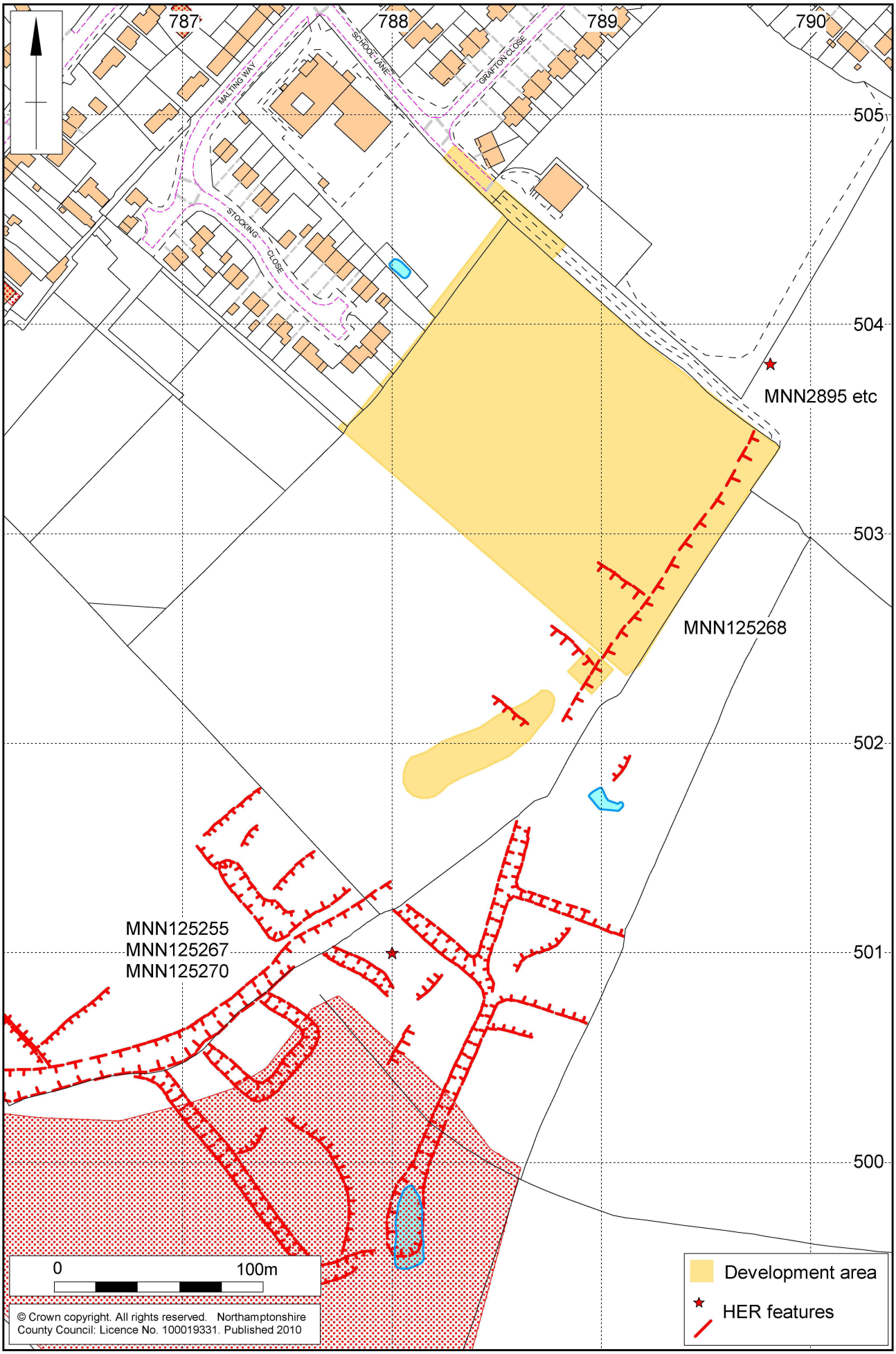
Trench/ Context	Description	Notes
607	Fill of [604], mid grey-brown silty clay, moderate flint and chalk	
608	Fill of [604], mid orange-brown clay,	
609	Fill of [604], dark grey silty clay, occasional stone and chalk	
Trench 7	**Furrow noted**	
701	Plough soil, dark grey-brown clay loam with some stones, 0.22-0.33m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
702	Subsoil, mid brown merging with topsoil, occasional stone and flint 0.05-0.10m deep	
703	Natural, mid yellow-grey clay with moderate chalk and small stones	
704	Fill of [705] mottled grey-brown-orange silty clay, frequent stone, chalk and flint,	
705	Cut of ditch, width 1.90m depth 0.60m	
Trench 8	**Land drain within feature**	
801	Plough soil, mid grey-brown clay loam, 0.26-0.30m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
802	Natural, light yellow-brown chalky clay.	
803	Fill of [809] mottled dark grey-brown with orange silty clay, occasional chalk, flint and stone	Later Iron Age-early Roman pottery, animal bone
804	Fill of [809] mid blue-grey silty clay, occasional stone and charcoal moderate chalk flex	
805	Fill of [809] dark grey-orange silty clay, occasional stone and flint	Later Iron Age-early Roman pottery, animal bone
806	Fill of [809] mottled mid grey-brown with orange silty clay, occasional stone and charcoal	Later Iron Age-early Roman pottery, animal bone
807	Fill of [809] mottled mid blue-grey with orange silty clay, rare small stone and charcoal	
808	Fill of [809] mottled mid brown-grey silty clay, occasional stone and chalk.	Later Iron Age-early Roman pottery, animal bone
809	Cut of ditch, width 2.40m depth 1.40m	
Trench 9		
901	Plough soil, dark grey-brown clay loam, 0.22-0.24m deep	Topsoil and subsoil merged, due to shallow depth and ploughing
902	Remains of subsoil, sandy orange clay, 0.02-0.05m deep	
903	Natural, mixed natural with irregular bands of sandy clay and chalky clay	
Trench 10	**Furrows noted**	
1001	Plough soil, mid grey-brown clay loam, 0.26m deep, regular chalk and gravels	Topsoil and subsoil merged, due to shallow depth and ploughing
1002	Remains of subsoil, sandy orange clay, 0.06m deep	
1003	Natural yellow-orange chalky clay	Remains of furrows

Trench/ Context	Description	Notes
Trench 11	**Furrows noted**	
1101	Plough soil, mid-dark grey-brown clay loam, 0.16-0.19m deep, regular chalk and gravels	
1102	Remains of subsoil, sandy orange clay, 0.03-0.05m deep	
1103	Natural, grey-yellow chalky clay, regular chalk and flint	Remains of furrows
Trench 12		
1201	Plough soil, mid-dark grey-brown clay loam, 0.18-0.22m deep, regular chalk and gravels	Topsoil and subsoil merged, due to shallow depth and ploughing
1202	Natural, yellow-grey silty clay with irregular orange gravel bands	
Trench 13		
1301	Plough soil, mid grey-brown clay loam, 0.26m deep, regular chalk and gravels	Topsoil and subsoil merged, due to shallow depth and ploughing
1302	Subsoil, orange gravels merging with topsoil 0.15-0.20m deep	
1303	Natural, yellow-grey silty clay with irregular orange gravel bands	
1304	Cut of ditch, width 4.30m depth 0.60m	
1305	Fill of [1304] mid grey silty clay, compacted chalk, stone, cobbled and gravels set in natural clay, cambered metalled surface.	
1306	Fill of [1304], mid grey-brown silty clay, frequent gravel, stone, flint and orange sandy flex	Remains of a frogged brick and tile
1307	Cut of gully, width 0.70m depth 0.35m	
1308	Fill of [1307], single fill of orange sandy/gravel silty clay,	
1309	Cut of gully, width 0.70m depth 0.15m	
1310	Fill of [1309], single fill of orange sandy/gravel silty clay.	Fragments of brick
Trench 14		
1401	Plough soil, mid-dark grey-brown clay loam, 0.25-0.40m deep, regular chalk and gravels	Topsoil and subsoil merged, due to shallow depth and ploughing
1402	Subsoil, remains of subsoil, orange silty gravel, 0.06-0.10m deep	
1403	Natural irregular band of orange silty sandy gravel and yellow-orange clay	Modern drain at north-western end of trench
Trench 15		
1501	Plough soil, mid grey-brown clay loam, 0.28-0.40m deep, regular chalk and gravels	Topsoil and subsoil merged, due to shallow depth and ploughing
1502	Subsoil, remains of subsoil, orange silty gravel, 0.06-0.10m deep	
1503	Natural irregular band of orange silty sandy gravel and yellow-orange clay	Field boundary and land drains

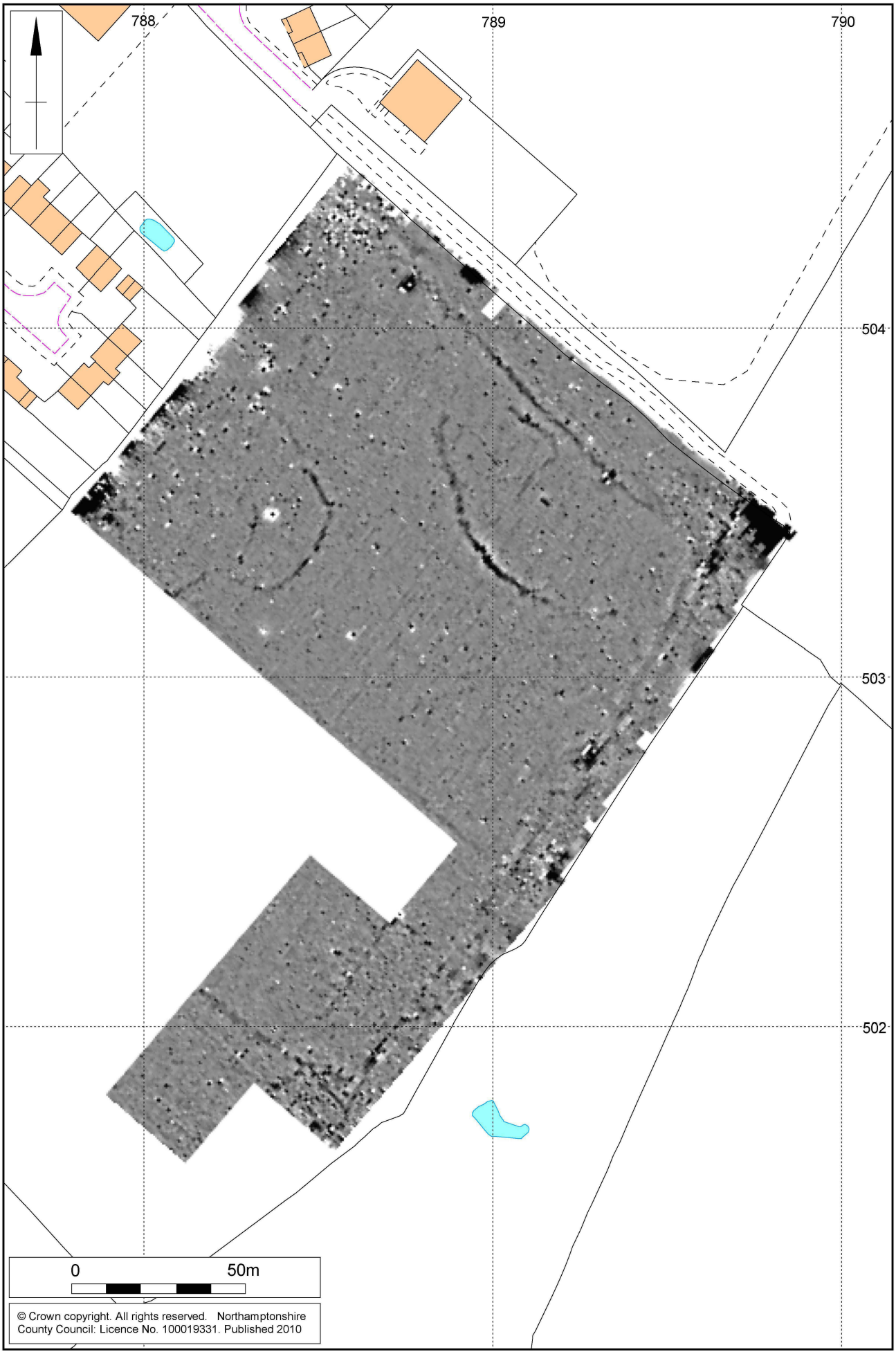


Scale 1:10,000

Site location Fig 1



Scale 1:2500 Historic Environment Record features Fig 2

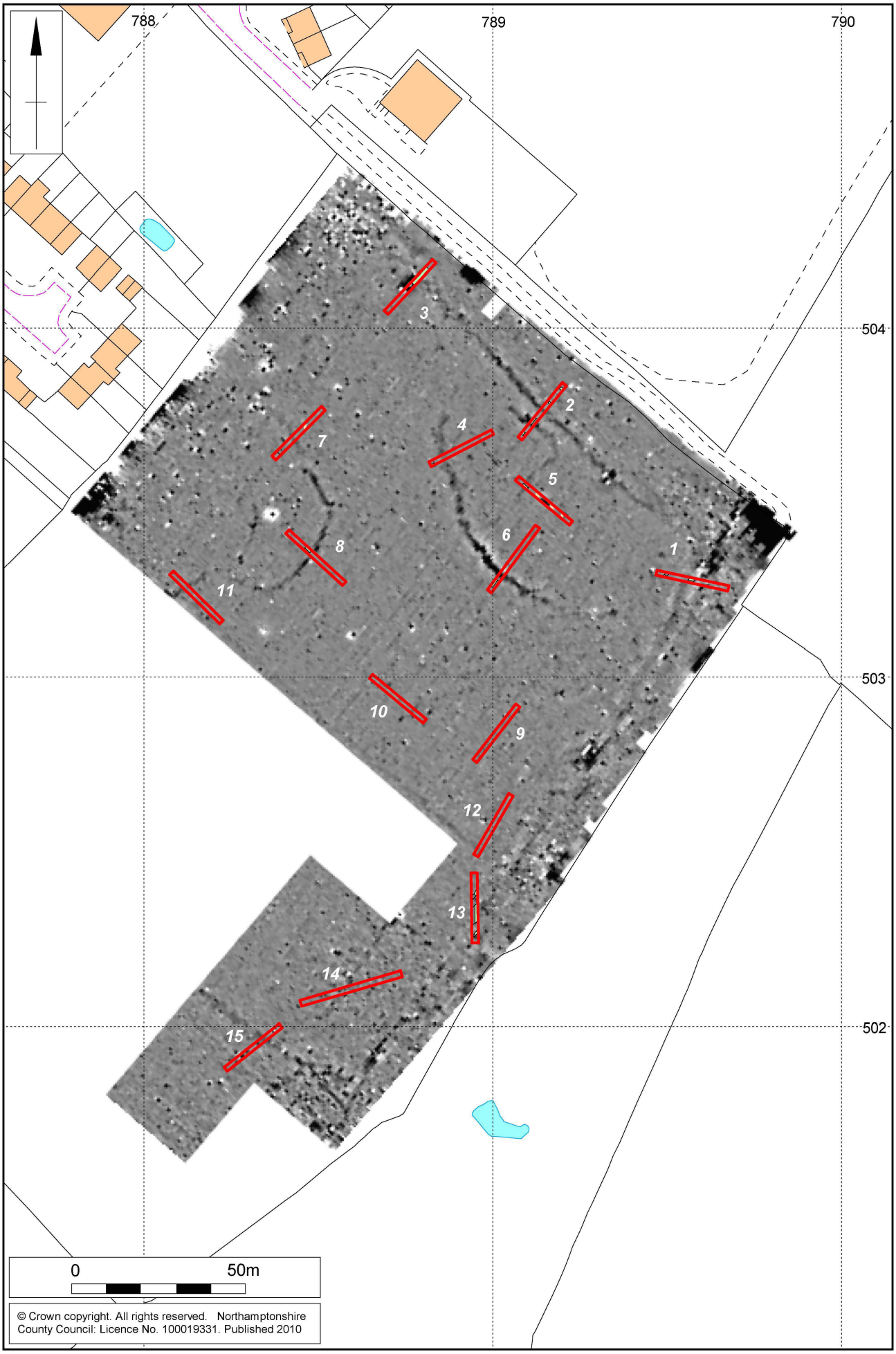


Scale 1:1500

Magenetometer survey greyscale plot Fig 3

Scale 1:1500

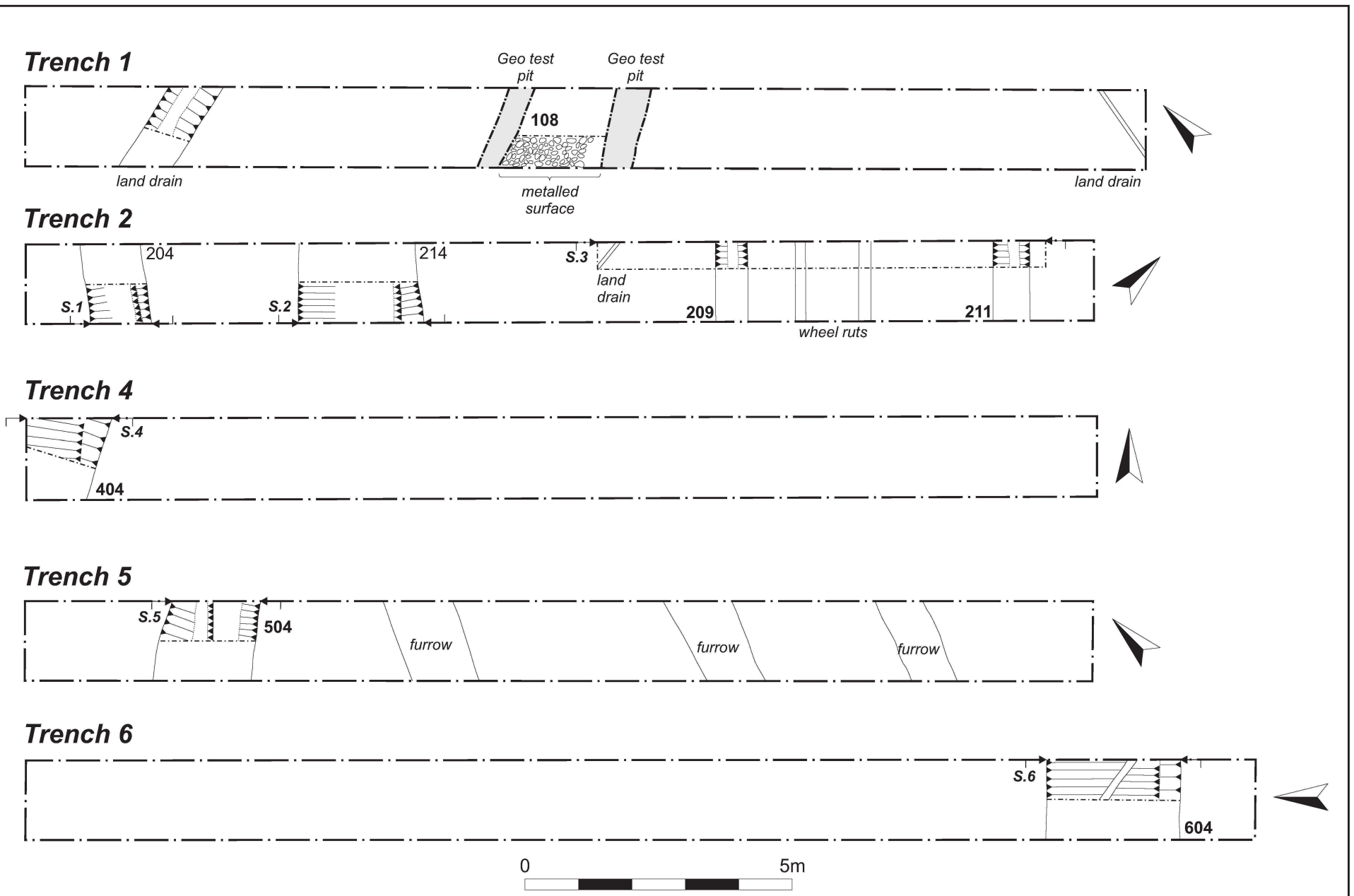
Magnetometer survey interpretation Fig 4



Scale 1:1500

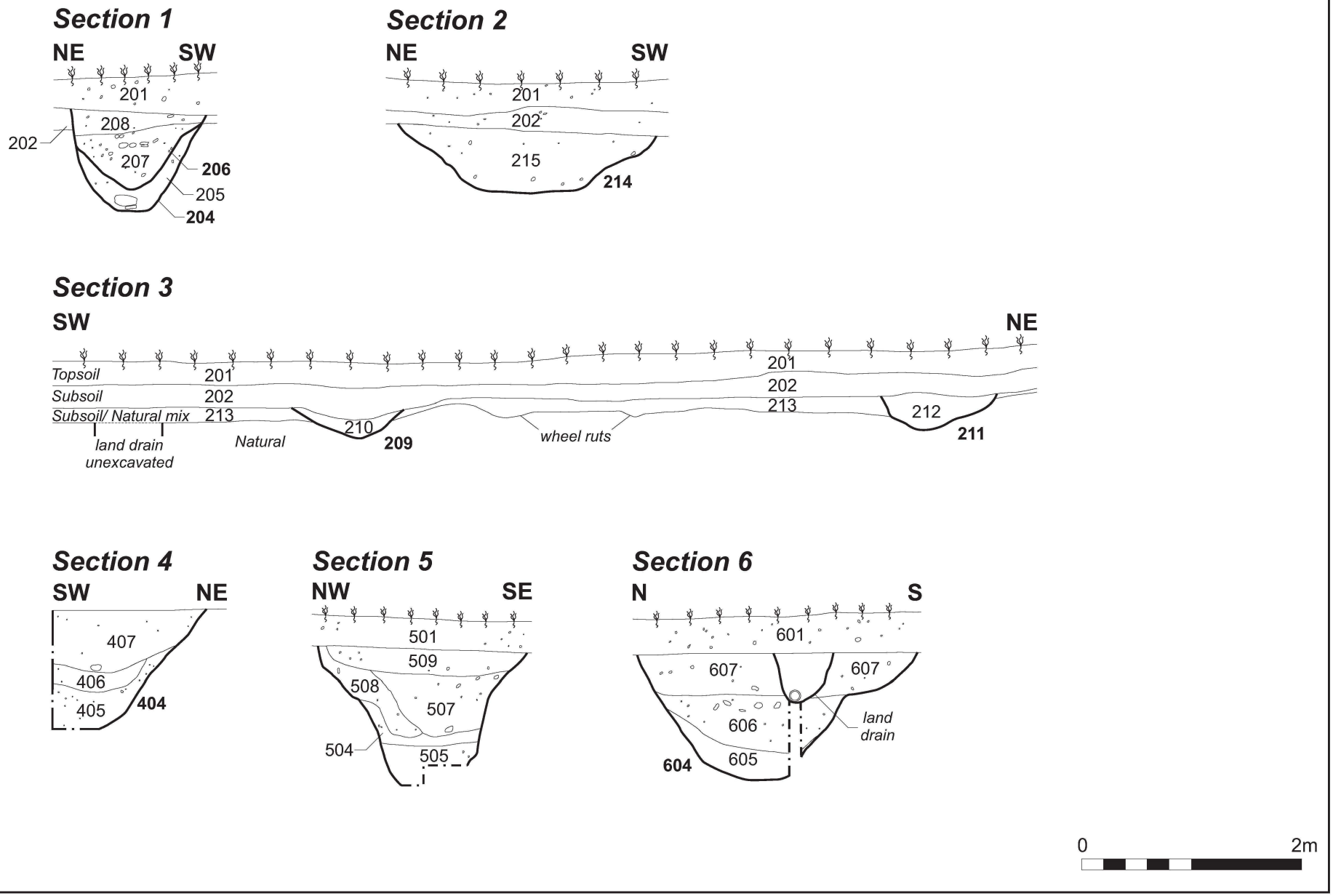
Trench locations Fig 5

Scale 1:100



Trench plans 1-6 Fig 6

Scale 1:50



Sections 1-6 Fig 7

Metalled surface (108) looking south-west Fig 8

Ditch [204] recut [206] looking south-east Fig 9

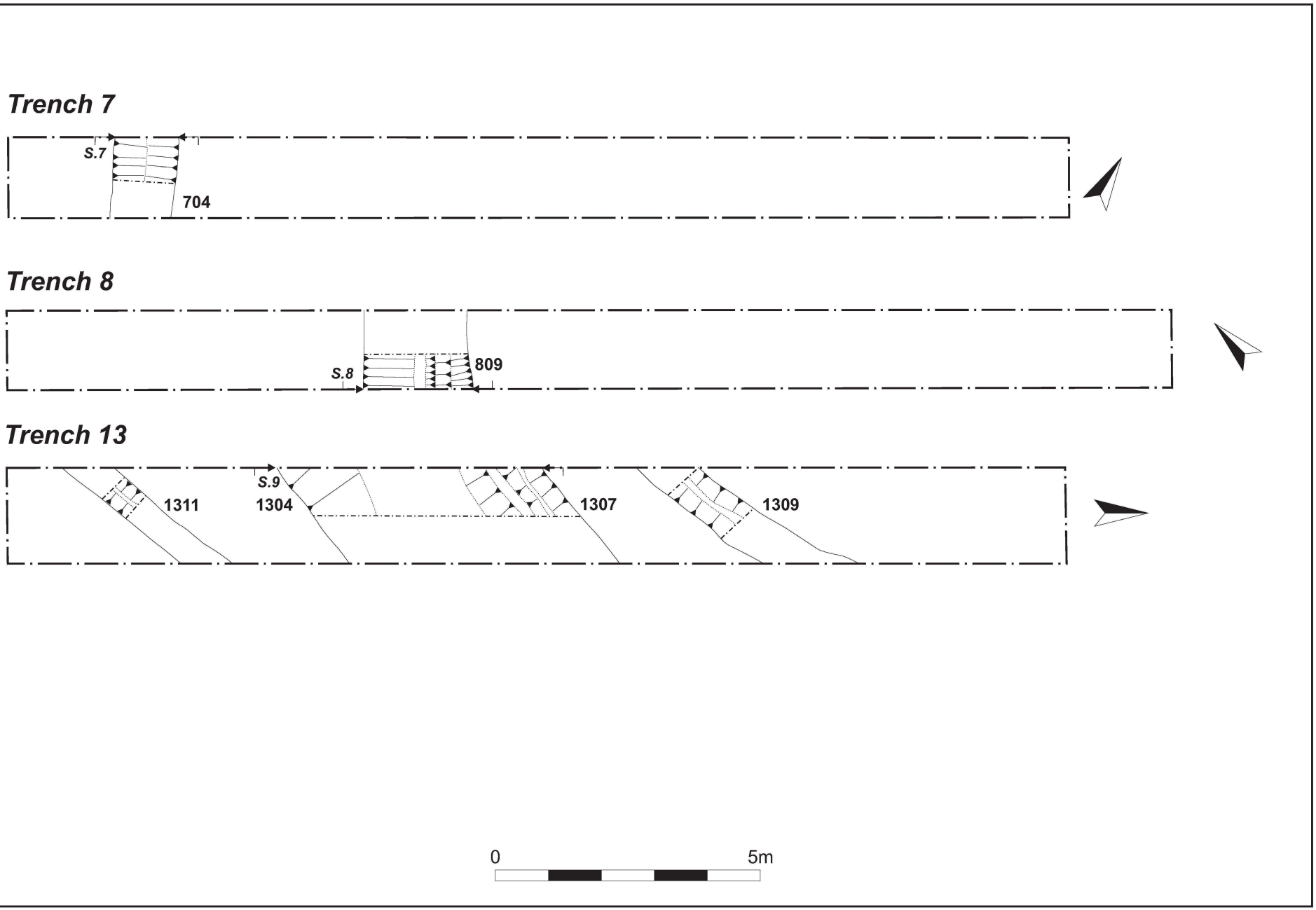
Ditch [214] looking south-east Fig 10

Ditch [404] looking north Fig 11

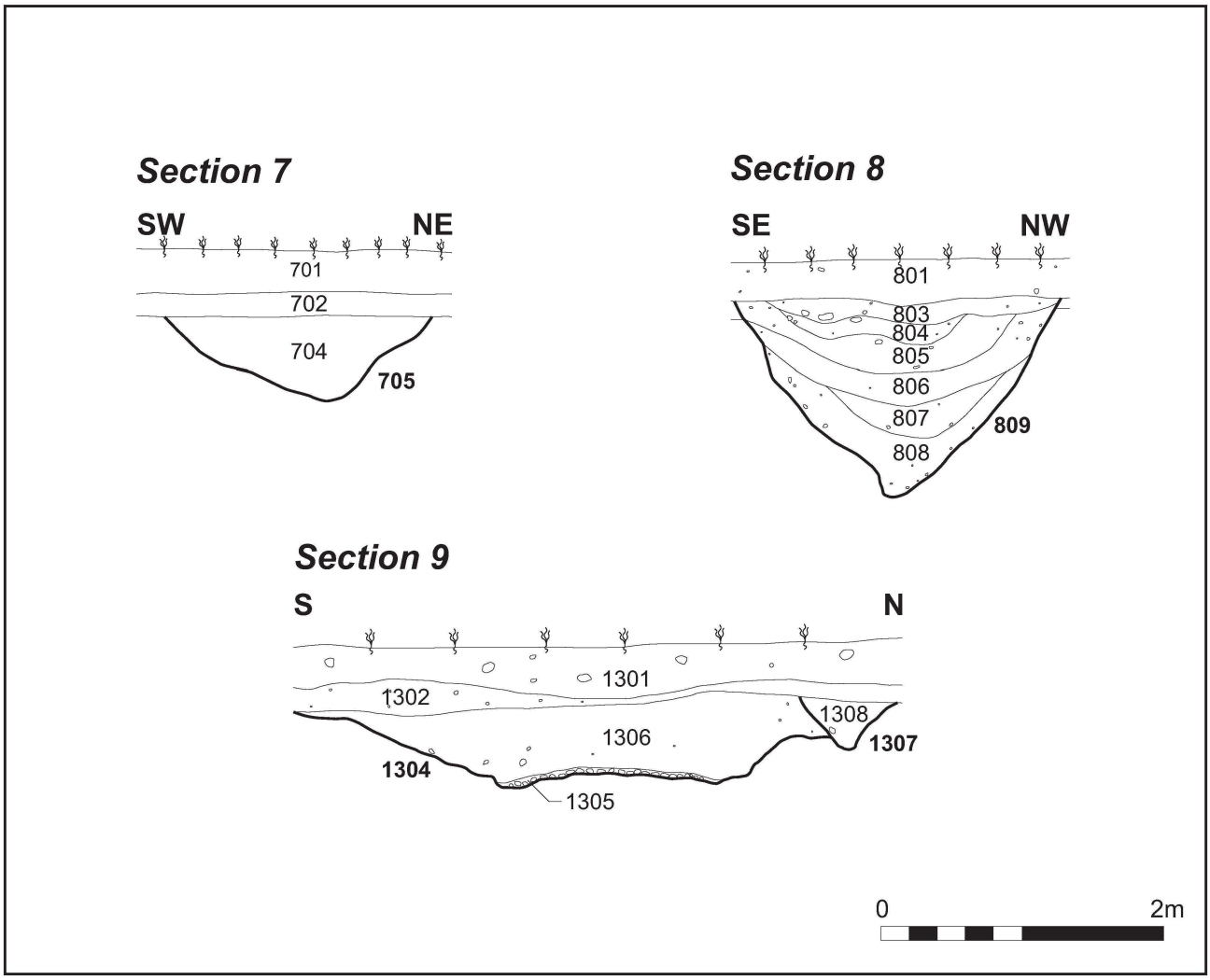
Ditch [504] looking north-east Fig 12

Ditch [604] looking south-east Fig 13

Scale 1:100



Trench plans 7, 8 and 13 Fig 14



Scale 1:50

Sections 7-9 Fig 15

Ditch [705] looking south-east Fig 16

Ditch [809] looking south-west Fig 17

Ditch [1304] with gully [1307] looking west Fig 18

Northamptonshire County Council

Northamptonshire Archaeology

Northamptonshire Archaeology
2 Bolton House
Wootton Hall Park
Northampton NN4 8BE
t. 01604 700493 f. 01604 702822
e. sparry@northamptonshire.gov.uk
w. www.northantsarchaeology.co.uk