

SWFW12



STARBOLD WIND FARM, BISHOP'S ITCHINGTON, WARWICKSHIRE

Archaeological Evaluation

for Broadview Energy Ltd

October 2012

STARBOLD WIND FARM, BISHOP'S ITCHINGTON, WARWICKSHIRE

Archaeological Evaluation

for Broadview Energy Ltd

October 2012

HA Job no.: SWFW12

HAS no.: 952

NGR: SP 379 559

Local authority: Stratford-upon-Avon District Council

OASIS ref.: Headland3-134154

Archive will be deposited with Stratford-upon-Avon Museum

Project Manager	Mike Kimber
Author	Mike Kimber & Simon Mayes
Fieldwork	Simon Mayes & Jason Murphy
Graphics	Caroline Norrman
Specialist	Tegan Daly – faunal remains Julie Lochrie & Jane Timby – finds Orla-Peach Power – palaeoenvironmental
Approved by	Mike Kimber – Project Manager



Headland Archaeology (UK) Ltd
© Headland Archaeology (UK) Ltd 2012

Midlands & West

Headland Archaeology
Unit 1, Premier Business Park, Faraday Road
Hereford HR4 9NZ
01432 364 901
hereford@headlandarchaeology.com

www.headlandarchaeology.com



CONTENTS

1.	INTRODUCTION	1
2.	SITE DESCRIPTION	1
3.	ARCHAEOLOGICAL BACKGROUND	1
4.	OBJECTIVES	2
5.	METHOD	2
	5.1 Trial trenching	2
	5.2 Recording	2
6.	RESULTS	2
	6.1 Romano-British settlement at Upper Spring Farm	11
	6.1.1 Trench 1	11
	6.1.2 Trench 2	11
	6.1.3 Trench 3	12
	6.1.4 Other trenches at Upper Spring Farm	12
	6.2 Anomaly 'E'	13
	6.2.1 Trench 9	13
	6.3 Turbine 2 microsites area and access track	13
	6.4 Geophysical anomalies 'L', 'M' & 'N'	13
7.	DISCUSSION	13
	7.1 Upper Spring Farm	13
	7.2 Other areas of the scheme	14
8.	ARCHIVE	14
9.	REFERENCES	14

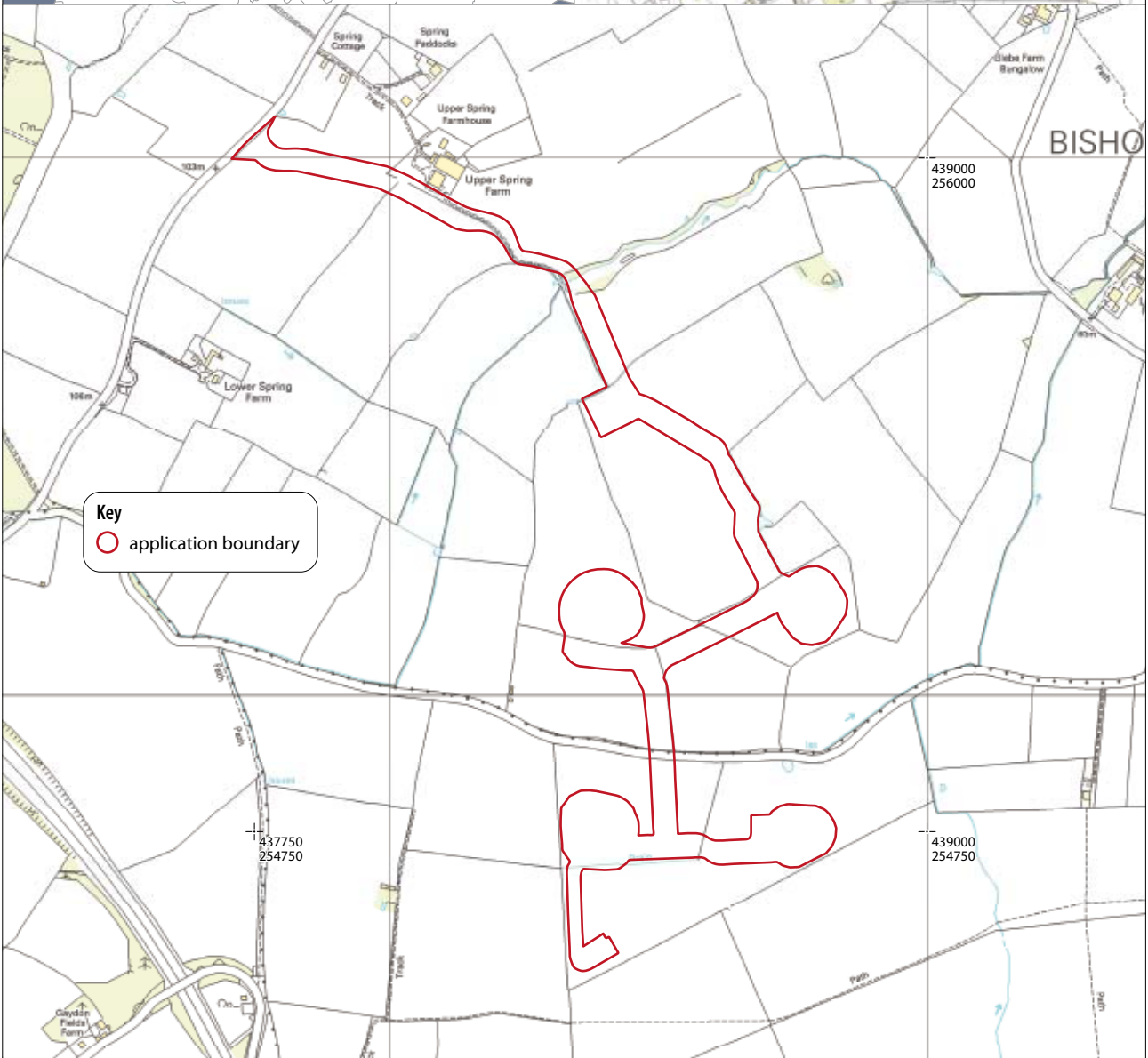
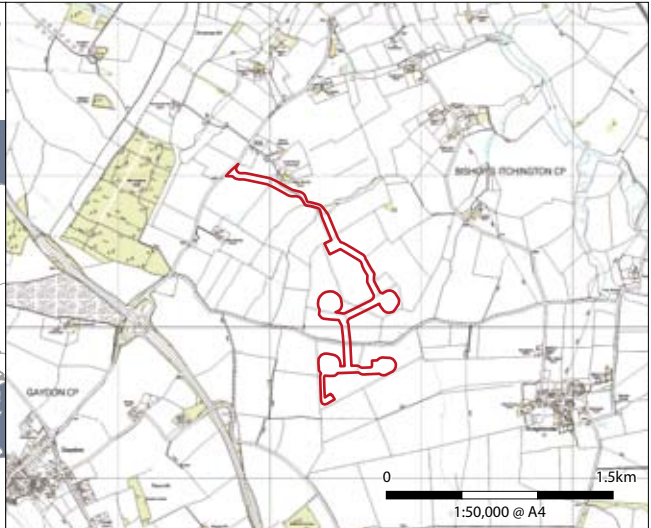
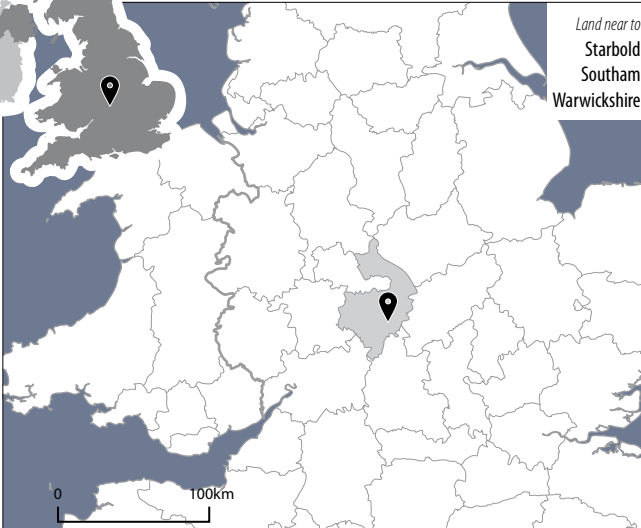
10.	APPENDICES	15
	Appendix 1 Registers	15
	<i>Appendix 1.1 Trench register</i>	15
	<i>Appendix 1.2 Context register</i>	15
	<i>Appendix 1.3 Drawing register</i>	17
	<i>Appendix 1.4 Photographic register</i>	17
	Appendix 2 Finds Assessment	20
	<i>Roman pottery</i>	20
	<i>Ceramic building material/Fired clay</i>	20
	<i>Lithics</i>	20
	<i>Potential and recommendations</i>	20
	<i>References</i>	20
	<i>Catalogues</i>	21
	Appendix 3 Faunal remains assessment	22
	<i>Introduction</i>	22
	<i>Methodology</i>	22
	<i>Results</i>	22
	<i>Potential for further work</i>	22
	<i>References</i>	23
	Appendix 4 Palaeoenvironmental assessment	24
	<i>Introduction</i>	24
	<i>Method</i>	24
	<i>Results</i>	24
	<i>Discussion</i>	24
	<i>Conclusion</i>	24
	<i>Statement of potential</i>	25
	<i>References</i>	25

LIST OF ILLUSTRATIONS

<i>Illus 1</i>		viii
	<i>Site location</i>	
<i>Illus 2a</i>		3
	<i>Site plan</i>	
<i>Illus 2b</i>		5
	<i>Site plan</i>	
<i>Illus 2c</i>		7
	<i>Site plan</i>	
<i>Illus 2d</i>		9
	<i>Site plan</i>	
<i>Illus 3</i>		11
	<i>Sections through features in Trenches 2 and 3</i>	
<i>Illus 4</i>		12
	<i>General view showing feature [2012]</i>	
<i>Illus 5</i>		12
	<i>Section showing profile of [2005]</i>	
<i>Illus 6</i>		13
	<i>General view of Trench 17 showing changes in natural geology</i>	

LIST OF TABLES

<i>Table A2.1</i>		20
	<i>Quantification of pottery by context, with spot dating</i>	
<i>Table A3.1</i>		22
	<i>Bone recovery by context</i>	
<i>Table A3.2</i>		23
	<i>Summary of faunal assemblage</i>	
<i>Table A4.1</i>		25
	<i>Retent sample results</i>	
<i>Table A4.2</i>		25
	<i>Flotation sample results</i>	



viii

Reproduced using map 1:10,000 and digital 1:7,500 data.
Ordnance Survey © Crown copyright 2011. All rights reserved.
Licence no. AL 100013329.

Scale 1:12,500 @ A4



Illus 1

Site location

STARBOLD WIND FARM, BISHOP'S ITCHINGTON, WARWICKSHIRE

Archaeological Evaluation

Broadview Energy Ltd appointed Headland Archaeology (UK) Ltd to conduct a programme of archaeological works, consisting of the excavation of 19, 25m x 1.8m wide evaluation trenches targeting previously identified geophysical anomalies and some previously un-surveyed areas. The work was undertaken as part of Further Environmental Information submitted in support of a planning application for the erection of four wind turbines plus construction of associated access tracks and other infrastructure at land to the east of Gaydon Road, Bishop's Itchington, Warwickshire.

The archaeological evaluation confirmed the results of the previous geophysical investigation and identified a series of structures, pits, gullies, and boundary features relating to a Romano-British farmstead, located towards the north of the site, within fields adjacent to Upper Spring Farm. Towards the southern end of the application area the evaluation confirmed the presence of two small boundary features as indicated on the geophysical survey, and confirmed that the remaining investigated anomalies were non-archaeological.

1

1. INTRODUCTION

Headland Archaeology (UK) Ltd was appointed by Broadview Energy Ltd to conduct a trial trench evaluation in advance of a planning application for the erection of four wind turbines plus construction of associated access tracks and other infrastructure at land to the east of Gaydon Road, Bishop's Itchington, Warwickshire.

The work was commissioned as part of Further Environmental Information being submitted to Stratford-upon-Avon District Council Planning Department.

Anna Stocks, the Archaeological Advisor to Stratford-upon-Avon District Council required an assessment of the potential impact of the proposed development upon the significance of any previously unknown heritage assets within the proposed development area prior to the determination of any planning application. This was to be undertaken via a scheme of trial trenching, following a previous geophysical survey (Bartlett 2011). The results of these phases of work will assist the determination of the planning application. This scope of work was encapsulated within a Project Design produced by Headland Archaeology (Kimber 2012) and agreed with the planning authority.

The evaluation was conducted between the 3rd and 15th of September 2012

2. SITE DESCRIPTION

The proposed development area currently comprises agricultural land producing a variety of crops. It is located between Bishop's Itchington and the M40 (*Illus 1*). The northernmost end of the area is located at Upper Spring Farm; it extends to the south over a distance of approximately 1.2km.

The area encompassed by the evaluation comprises of approximately 18ha, lying at 102.00m OD towards north of the site while gently sloping down towards its southern boundary (95.00m OD).

The underlying geology is recorded as being rocks of the Jurassic Lower Lias. The Lower Lias comprises bluish grey or brown clays and shales with very occasional thin limestones. Sporadic thin, impersistent bands of poor oolitic shelly ironstone are also present. No superficial deposits are present (Wardell Armstrong LLP 2011).

3. ARCHAEOLOGICAL BACKGROUND

A Geophysical Survey (Bartlett 2011) relating to the proposed development was previously undertaken in connection with the planning application. The geophysical survey identified the presence of anomalies appearing to form a system of enclosures



to the west of Upper Spring Farm. These enclosures appeared likely to represent the remains of a Romano-British rural settlement, organised on a linear layout on an approximately east-west alignment.

A further system of enclosures was identified at the proposed location of Turbine 1. This turbine was subsequently removed from the scheme.

Other isolated anomalies or clusters of anomalies interpreted as archaeological in origin but not readily matching specific types of archaeological site were located at various locations across the rest of the scheme.

4. OBJECTIVES

The objectives of the project were to ascertain whether any archaeological remains were present within the area of the proposed development, and to characterise them by date, extent, preservation, and significance.

Anna Stocks (Warwickshire Council) identified four areas within the land to be affected by construction works where she wished to see further pre-determination archaeological evaluation. The evaluation aimed to address the following questions:

- What is the nature, extent and condition of the presumed Romano-British settlement site detected by gradiometer survey in Field 1 to the west of Upper Spring Farm? Does it extend into the area not accessible to geophysical survey immediately adjacent to Upper Spring Farm?
- Does geophysical anomaly 'E' in Field 2 relate to archaeological features?
- Do the geophysical anomalies in the micro-siting area for the base of Turbine 2 and its access track relate to archaeological features?
- Do three areas of geophysical anomalies labelled 'L', 'M' and 'N' relate to archaeological features?

The information assembled during the trial trenching is intended to make it possible to establish the potential impact of the proposed development upon any archaeological assets present within the site boundary.

5. METHOD

5.1 Trial trenching

The evaluation comprised of the excavation of 19 trenches, each 25m in length, through the principal areas of the proposed development site (*Illus 2a & 2b*). The evaluation trenches were originally located in consideration of the results of the geophysical survey.

A slight alteration to the original position of trench 15 was necessary to avoid damage to crops that were still to be harvested

and damage to a stewardship field boundary.

Excavation of the evaluation trenches was undertaken using a JCB 3cx mechanical excavator equipped with a toothless ditching bucket. All mechanical excavation was under direct supervision of an archaeologist.

The excavated trenches were closely examined for any features and the spoil was re-examined in order to collect any unstratified artefacts.

5.2 Recording

All recording followed IfA Standards and Guidance for Archaeological Evaluation (IfA 2009). A plan of evaluation trenches and features encountered was created using an RTK Trimble GPS and updated onto an AutoCAD base plan of the development area.

Evaluation trenches were photographed with graduated metric scales and include 35mm black-and-white archival prints, colour transparencies and digital reference photographs.

6. RESULTS

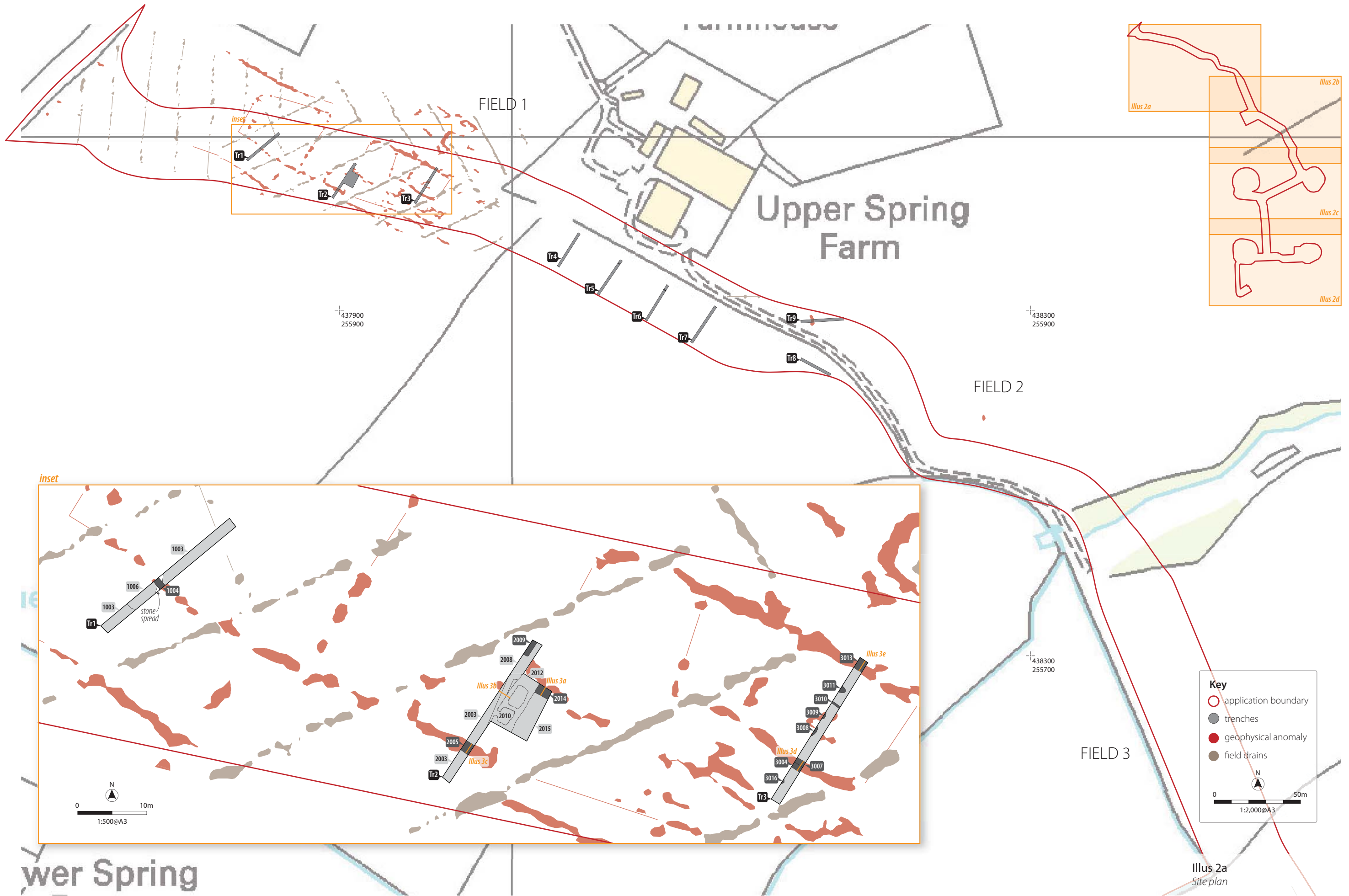
For the ease of reporting the excavation results, they have been displayed in a tabular form (Appendix 1). A brief, generalised description of the contexts present in the excavated trenches is given in this section.

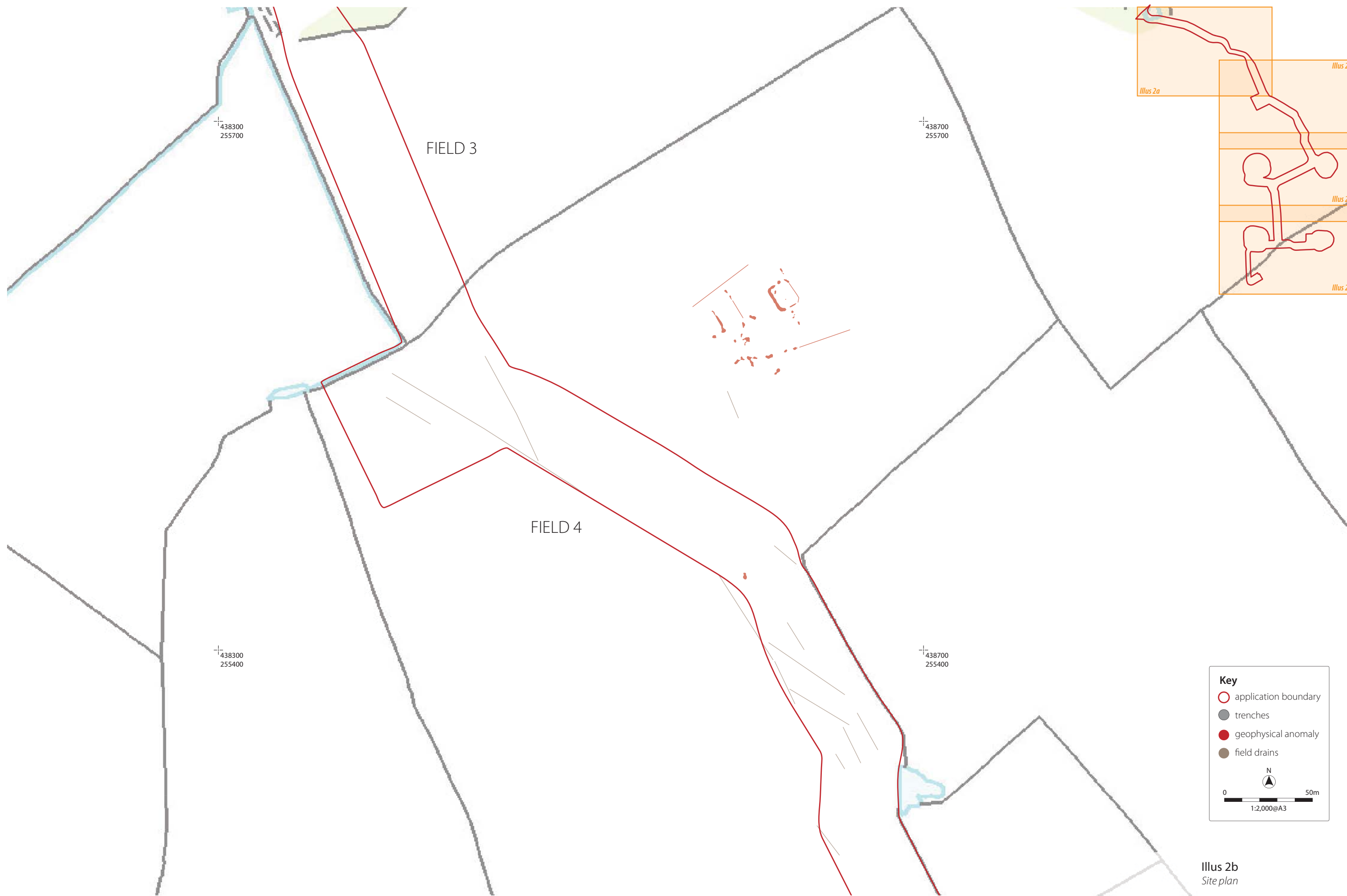
The general stratigraphic make up of the site within the fields adjacent to Upper Spring Farm (Trenches 1–9) consisted of the present day plough soil – a dark brown deposit with evidence for inclusions indicating previous ploughed in crop remains - overlaying a layer of buff yellow clay loam subsoil that contained infrequent and small inclusions of irregular white grit particles towards the lower levels. The combined depth of these layers remained relatively consistent throughout the evaluation trenches at around 0.4m.

Beneath the plough soil and subsoil lay a geological deposit that consisted of a buff yellow clay loam with patches of grey clay. Within the areas of the site containing Romano-British remains this deposit was flecked with concentrations of small white grit particles, similar to those seen within the overlying subsoil. It is possible this indicates that the archaeological deposits beneath the topsoil and subsoil had been impacted upon by ploughing for different regimes of crops.

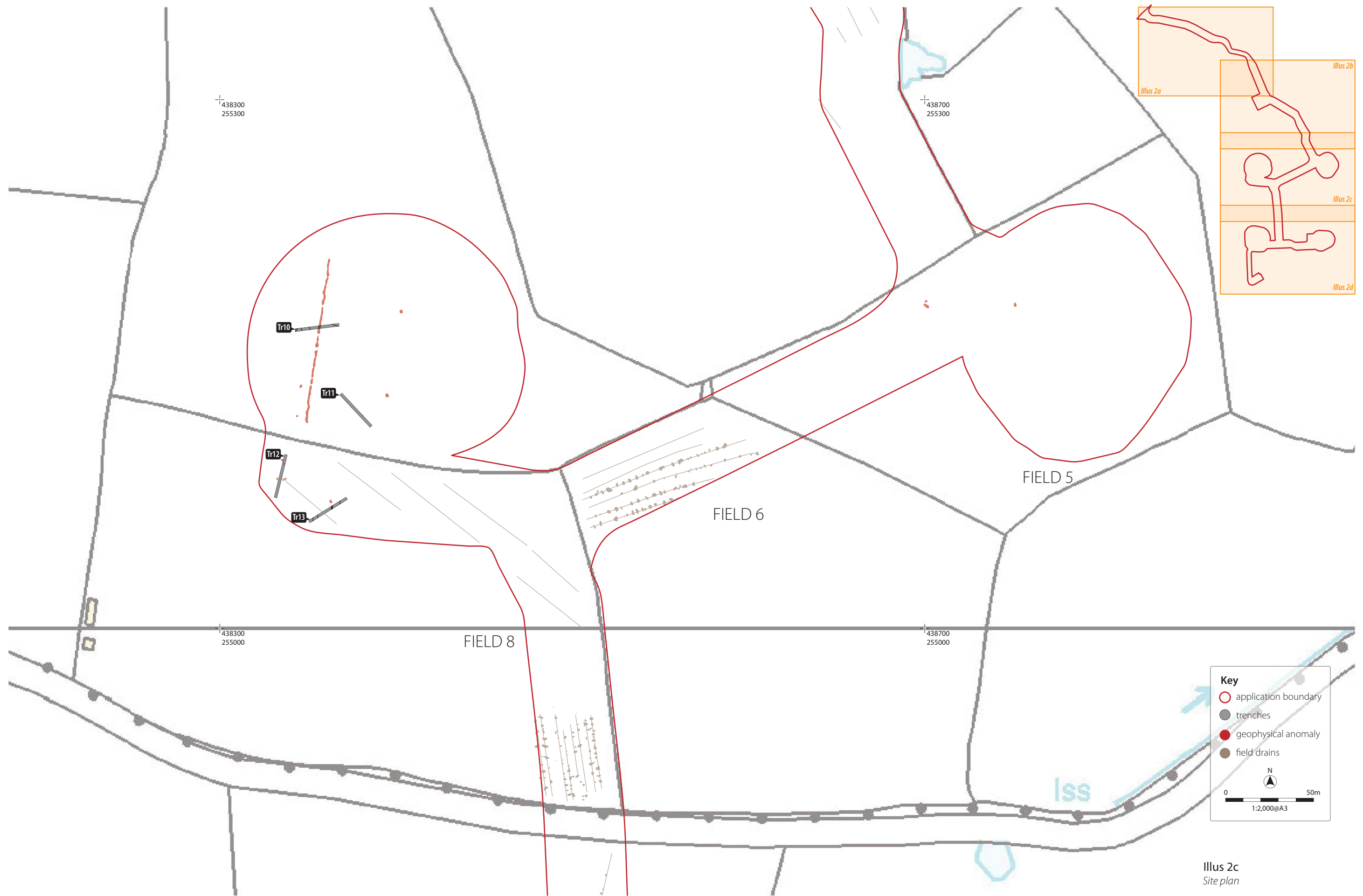
Within the trenches excavated towards the southern end of the proposed development the superficial deposits were similar in character to those around Upper Spring Farm; the geological horizon however was redder in colour.

The results have been categorised in to areas with identified archaeological assets and those without. Within the grouping an attempt has been made to illustrate a sequence of phasing to the archaeology assets.

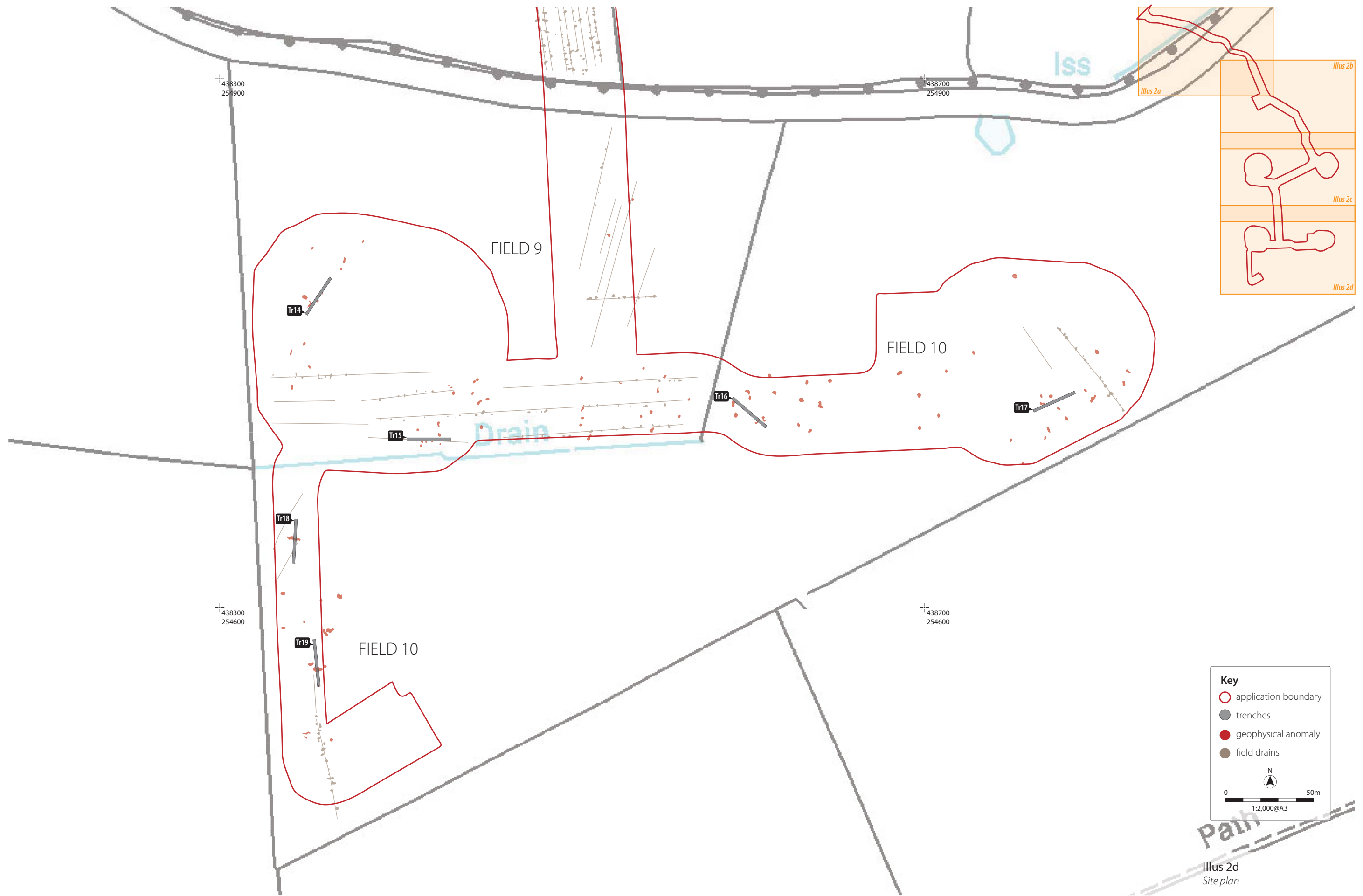




Illus 2b
Site plan



Illus 2c
Site plan



Illus 2d
Site plan

6.1 Romano-British settlement at Upper Spring Farm

6.1.1 Trench 1

Beneath the topsoil and subsoil of Trench 1 was a buff grey deposit with an approximate depth of 0.02m [1006] interpreted as the remains of a surface. It spread across the south west extent of the trench for approximately 2.40m. This layer contained a distinctive band of small rounded pebbles aligned north-south. Surface [1006] was cut by a linear feature [1005] aligned north-west to south-east with a shallow profile (1.00m by 0.15m). Within this feature the excavated fill [1004] contained a single piece of pottery – a body-sherd belonging to a local form of Severn Valley ware.

Feature [1005] is identified on the geophysical survey as a linear feature running north-west to south-east for approximately 45m. The geophysical results indicate that [1005] is intersected by a north-east to south-west aligned anomaly towards the mid-point between trenches 1 and 2. The feature within trench 2 had different dimension and profile, suggesting that the possible interconnecting anomaly may in fact represent the terminus of [1005].

6.1.2 Trench 2

Part of Trench 2 was widened at the request of the archaeological advisor to the planning authority to clarify the nature of features revealed in the original 1.6m wide trench.

Within Trench 2 a sequence of features was revealed. A simple phasing has been applied; it is based only on the limited extent of the area evaluated and is therefore subject to alteration should further work be conducted.

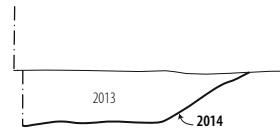
Phase 1

Identified during the original excavation of Trench 2 was a shallow linear feature [2010] that formed a rectangular area cut by a later feature [2012]. Aligned approximately north south, [2010] formed a very shallow gully (0.50m wide by 0.10m deep) approximately 8m in length with a right angle turn at the north-eastern end of the trench, the gully was filled by [2007], a dark grey silty fill. The general impression of [2010] was that it could have represented the base of a building, possibly a sleeper trench for a wooden beam.

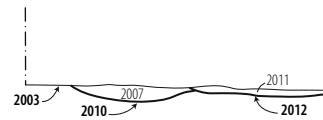
Phase 2

Phase 2 contained a large linear feature aligned north-west to south-east [2014] (*Illus 3a*). The feature appeared to predate the later phase 3 structure but probably cut the phase 1 structure [2010] – although this relationship was not directly investigated. There was no evidence that [2014] continued through the evaluation trench towards the north-west; the geophysical survey may indicate that [2014] turns towards the north-east and therefore possibly relates to a linear feature identified within Trench 3 [3013], thus forming a square enclosure measuring approximately 30m across. Dating evidence from its fill [2013] comprised one sherd of Severn Valley ware as well as three burnt flints (un-struck); the pottery implies a date range between the 2nd and 4th century AD.

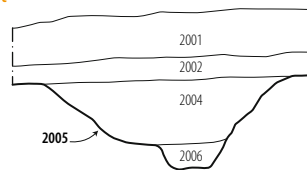
Illus 3a NE 101.50m OD



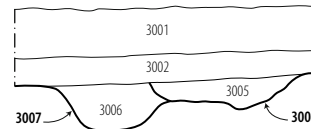
Illus 3b NW 101.50m OD



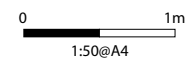
Illus 3c NE 101.50m OD



Illus 3d NE 100.00m OD



Illus 3e NE 99.50m OD



Illus 3

Sections through features in Trenches 2 and 3

Phase 3

The most recent phase of activity identified with Trench 2, consisted of a large linear feature [2005] and a rectangular structure with possible internal divisions [2012].

The main feature identified and associated with phase 3 is the probable remains of a structure implied by the shallow gully [2012]. The structure measured approximately 8m in length and 3.5m in width, with internal dimension of 2.5m x 3.0m and 2.5 x 3.5m, and had truncated the earlier structure [2010] (*Illus 3b*). During excavation of this feature, it was apparent that it contained two distinctive internal areas. The internal areas were marked by distinctive 'dirty' patches [2003] – possibly related to floor surfaces. The north-western internal area appeared to have an entrance way located its north-western alignment.



Illus 4

General view showing feature [2012]



Illus 5

Section showing profile of [2005]



12

The fill [2011] of structure [2012] consisted of a dark grey silty clay loam that contained two fragments of Roman tile, two pieces of fired clay, possibly burnt daub, and two fragments of Severn Valley ware (reduced). The pottery fragments place the feature into the period between the 2nd and 4th century AD.

Sample excavation of the feature illustrated that the structure truncated the earlier structure [2010].

Also placed in this phase is linear feature [2005] (*Illus 3c*). It was aligned north-west to south-east and was located towards the southwest of the evaluation trench. It measured approximately 1.50m wide with a depth of 0.60m; the ditch had a very distinctive 'ankle-breaker' profile (*ie* a narrow slot running along its base) often associated with sites of Romano-British date. The primary fill [2006] of the feature consisted of a black and moist deposit overlain by a grey black silty clay layer [2004], both deposits containing Romano-British pottery with a date range associated with the 2nd century AD. It is placed within this phase because

in combination with the geophysical survey it could be seen to form a large enclosure surrounding the area of structure [2012], possibly superseding the earlier enclosure formed by [2014]

A further possible surface [2008] was identified in the northern end of Trench 2. No dating evidence was found.

6.1.3 Trench 3

Identified within Trench 3 were a number of semicircular pit features [3009, 3008 & 3016]; these features were not excavated as they extended only partially into the north-west edge of the evaluation trench. Dating evidence was recovered from the uppermost fills of pits [3008] – a lump of fired clay and nine fragment of grey sandy ware forming the base of a pottery vessel; and [3009] – a fragment of imported Samian ware dated to the mid 2nd century AD.

Three linear features were also identified. Towards the north-west end of the evaluation trench two overlapping gullies were located [3004, 3007] (*Illus 3d*) both aligned north-west to south-east and sharing similar dimensions, fills and profiles. In section it was evident that [3004] was cut by [3007].

A small linear feature [3012] shared an identical alignment with 3004 but differed in dimensions, being considerably narrower, the feature was not sample excavated.

Identified from the geophysical survey, feature [3013] (fill 3015) was a large ditch aligned north-west to south-east, the excavated sample shared a similar profile

and dimension with a feature identified within Trench 2 [2014] although the geophysical results are not conclusive enough to confirm this suspected relationship. Contained within its fill were fragments of pottery, two related to the local fine grey sandy ware, and 1 fragment was identified as Severn Valley ware (2nd to 4th century AD).

6.1.4 Other trenches at Upper Spring Farm

Trenches 4-8 were excavated along the line of the proposed access track to the south of Upper Spring Farm, in order to confirm that the Romano-British remains did not extend into this area. All five trenches were archaeologically sterile.

6.2 Anomaly 'E'

6.2.1 Trench 9

Evaluation trench 9 was targeted on geophysical anomaly 'E'. The evaluation trench showed the anomaly to be a burnt deposit of coal clinker [9004]. No further features were identified within the trench.

6.3 Turbine 2 microsite area and access track

Trench 10 was targeted to identify a linear geophysical anomaly. Within the trench it was found to correspond to a shallow ditch [10005] approximately 1m in width with an excavated depth of approximately 0.30m. No datable finds were recorded within its fill [10004] but the boundary is visible on earlier OS mapping.

Trenches 11 & 12 proved archaeologically sterile. Within Trench 13 was a similar feature to [10005] seen within Trench 10. A linear feature [13003] was present, measuring approximately 1m wide and sharing a common north-south alignment with [10005]. The feature was not excavated in order to avoid damage to a land drain that was cut into its fill.

6.4 Geophysical anomalies 'L', 'M' & 'N'

The trenches excavated at the locations of these anomalies (Trenches 14–19) all proved archaeologically sterile.



Illus 6

General view of Trench 17 showing changes in natural geology

13

7. DISCUSSION

7.1 Upper Spring Farm

The evaluation of the area encompassed by the proposed development has confirmed the presence, first indicated by the geophysical survey, of a Romano-British site within the field adjacent to Upper Spring Farm. There was good concurrence between linear anomalies detected by geophysics, and actual linear features found during trial trenching. Other types of feature – pits and the presumed remains of timber-built structures – were detected less well.

The remains in the vicinity of Upper Spring Farm are dated conclusively by ceramics to the Romano-British period (Appendix 2). No evidence of earlier Iron Age or later Dark Age occupation was found. The single sherd of Samian ware found might place the site within the 2nd century AD.

The bone assemblage (Appendix 3) has indicated the presence of a range of stock of varying ages, suggesting animals were being put to different types of use – meat, traction, wool, milk and so on. The environmental samples (Appendix 4) have produced evidence for charred cereal grains, suggesting domestic and agricultural activity was taking place within an agricultural setting typical for the period.

The stratigraphic evidence from site points to the existence of linear boundary features, some of which may have formed enclosures. A plausible explanation for these features is a combination of stock management, and the definition of residential areas. In general the linear features were well preserved and have retained artefactual and ecofactual evidence relevant to further understanding of the archaeological remains.

There is also some evidence for the presence of buildings, particularly within Trench 2. These features were shallow, almost ephemeral, but their shape, and in the case of feature [2012] the presence of ceramic building material within [2012], lends weight



to their interpretation as the remains of structures; whilst burnt daub found within linear feature [3004] and pit [3008] suggests the presence of structures elsewhere within the site. It is possible that the possible surfaces [1006] identified in Trench 1 and [2008] in Trench 2 represent heavily truncated occupation horizons. Whatever they are, the structural features are not particularly well preserved, seeming to have been plough-truncated. This suggests that they have a greater sensitivity to damage than the boundary features, but also is likely to mean that part of their evidential value has already been lost.

There appears to be evidence of development and change at the site – particularly in the successive structures in Trench 2 and the successive boundary features in Trench 3. This means that it is possible the site could yield information relevant to understanding the mechanisms of change on rural settlements in the Romano-British period.

The remains located adjacent to Upper Spring Farm have the character of a rural settlement within which a range of agricultural and pastoral activities typical to the period were taking place. Remains of domestic character are likely to be present in poorly preserved form; remains relating to stock management and landscape division are present and have a better level of survival.

The settlement seems confined to the area west of Upper Spring Farm, and it is likely that the extent recorded by geophysical survey is close to the true extent of the archaeological remains.

14 There was no evidence that remains associated with it were present elsewhere in the proposed access route.

No further analysis or publication is warranted on the evidence recovered to date from the evaluation (see conclusions to specialist assessments: appendices). However, if a programme of archaeological work is undertaken in connection with the construction of the proposed scheme, the results from the evaluation should be included in the analysis of any further recovered evidence.

7.2 Other areas of the scheme

The geophysical anomalies investigated across the remainder of the scheme related to a recent patch of cinders, to post-medieval land division, or were geological signals wrongly interpreted as archaeological. There do not appear to be remains of archaeological significance at any of the other locations tested.

8. ARCHIVE

The archive is currently located at Headland Archaeology's premises (Unit 1, Premier Business Park, Faraday Road, Westfield Trading Estate, Hereford, HR4 9NZ) and will be deposited with the Strafford-upon-Avon Museum within six months of report acceptance.

9. REFERENCES

- Archaeological Archives Forum Archaeological Archives: a guide to best practice in creation, compilation, and transfer (published by the IfA 2007).
- Bartlett, ADH 2011 *Proposed Starbold Wind Farm, Warwickshire: Report on Archaeological Geophysical Survey*, Headland Archaeology (UK) Ltd/Bartlett Clark Consultancy.
- British Geological Survey; website; <http://www.bgs.ac.uk>
- Kimber, M 2012 *Starbold Windfarm, Warwickshire: WSI for Archaeological Trial Trenching*, Written Scheme of Investigation, Headland Archaeology (UK) Ltd.
- Institute for Archaeologists 2009 *Standard and Guidance for Archaeological Field Evaluation*.
- Wardell Armstrong LLP 2011 *Ground Conditions Baseline Report*.

10. APPENDICES

Appendix 1 Registers

Appendix 1.1 Trench register

Trench	Orientation	Description	Length	Avg. Trench depth m OD
1	NE-SW	Stratified deposits with possible surface cut by drainage ditch containing second to fourth century pottery.	25m	102.22m
2	NE-SW	Stratified deposits with multi phase rectangular structures, linear boundary ditches, second to fourth century pottery.	25m	100.80m
3	NE-SW	Stratified deposits with, linear boundary ditches and unexcavated pits, containing second to fourth century pottery.	25m	99.50m
4	NE-SW	No identified features of archaeological significance.	25m	95.70m
5	NE-SW	Identified modern land drain, No identified features of archaeological significance.	25m	95.05m
6	NE-SW	Identified modern land drain, No identified features of archaeological significance.	25m	94.50m
7	NE-SW	No identified features of archaeological significance.	25m	94.20m
8	SE-NW	No identified features of archaeological significance.	25m	94.02m
9	E-W	Target to identified geophysical anomaly, identified as modern coal fire deposit.	25m	94.40m
10	E-W	Possible field boundary aligned N-S, identified on geophysical survey.	25m	92.49m
11	N-W	Possible field boundary aligned N-S, identified on geophysical survey.	25m	94.70m
12	N-S	No identified features of archaeological significance, modern land drains.	25m	95.05m
13	NE-SE	Possible field boundary aligned N-S, not identified on geophysical survey, possible related to feature seen in trench 10.	25m	95.00m
14	NE-SE	No identified features of archaeological significance.	25m	93.80m
15	E-W	No identified features of archaeological significance.	25m	94.85m
16	NW-SE	No identified features of archaeological significance.	25m	92.05m
17	SW-NE	No identified features of archaeological significance.	25m	91.40m
18	N-S	No identified features of archaeological significance.	25m	93.80m
19	N-S	No identified features of archaeological significance.	25m	94.90m

Appendix 1.2 Context register

Context	Trench	Description
1001	1	Plough soil, dark brown, ploughed in crop debris (0.30m depth).
1002	1	Subsoil, buff yellow mouldable containing very small whit grit particles (0.20m depth).
1003	1	Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, archaeological feature of significance identified at this level.
1004	1	Fill of 1005, buff grey with red patches, gritty clay loam, containing pottery and animal bone.
1005	1	Shallow 'D' shaped linear ditch, aligned approximately NNW-SSE, 1.00m wide and 0.15m deep, filled by 1004.
1006	1	Buff grey deposit spread over 1003 and cut by 1005, possible tread or surface, (width 2.4m, depth 0.02m depth).
2001	2	Plough soil, dark brown, ploughed in crop debris (0.30m, 0.48m max depth).
2002	2	Subsoil, buff yellow mouldable containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.15m-0.20m depth).
2003	2	Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, archaeological feature of significance identified at this level.
2004	2	Secondary fill of cut 2005, black grey deposit of mouldable clay.
2005	2	'D' shaped Cut with ankle breaker profile, cuts 2003 (max depth 1.00m).
2006	2	Primary fill of 2005, black grey deposit with yellow and grey lenses, containing 3mm pea grit >1% and root inclusions.
2007	2	Dark brown to grey Fill of 2010, a narrow gully forming 1 quarter of a possible rectangular structure, Cut by 2012.
2008	2	Dark brown to grey area containing small to medium rounded pebbles >20%, Possible external area or surface.
2009	2	Clean yellow buff clay deposit with straight edges, possible division stopped the spread of 2008 into this area, similar to 2014.
2010	2	Cut of 2007, very shallow flattened 'D' shaped profile, possible remains of 1 quarter of a rectangular structure.
2011	2	Fill of 2012, dark grey silty clay loam containing bone and pottery, forming possible rectangular structure, aligned NNE-SSW with 2 apparent internal divisions, approximately 3.00m wide and exposed to 7.00m in length. Possible posthole visible, but no excavated.
2012	2	Cut, filled by 2011, very shallow, flat cut, 0.10m, possible forming rectangular structure
2013	2	Dark black silty clay containing pottery and bone, fill of 2014
2014	2	Cut filled by 2013, a large linear feature aligned NW-SE, apparently cut by 2012, sample section excavated but relationship with 2012 not fully evaluated due to limited size of extra excavated area.



Context	Trench	Description
3001	3	Plough soil , dark brown, ploughed in crop debris (0.35m, 0.48m max depth)
3002	3	Subsoil, buff yellow mouldable containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.15m-0.20m depth)
3003	3	Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, archaeological feature of significance identified at this level.
3004	3	Cut, filled by 3005, linear cut within fill of gully 3007, flattered 'D' shaped drainage gully, secondary (0.20m depth)
3005	3	Filled of Cut 3005, black friable silty loam
3006	3	Fill of 3007, cut by 3004
3007	3	Cut filled by 3006, primary gully , aligned approximately NW-SE, (0.45m depth)
3008	3	Un-evaluated pit, only partially revealed due to location of evaluation trench section. Fill a buff green mouldable silty clay loam, not fully excavated as large pottery vessel was visible in fill when evaluation trench was opened.
3009	3	Un-evaluated pit , only partially revealed due to location of evaluation trench section. Fill a black silty clay loam forming fill of possible pit located along evaluation trench edge, not excavated as fill contained datable pottery visible when evaluation trench was opened
3010	3	Un-evaluated linear feature aligned NW-SE. Fill a light to dark brown, silty clay loam containing small rounded pebbles >2%, fill of 3010A, unexcavated.
3011	3	Small patch of a light brown clay loam, with possible stone edge, not excavated.
3012	3	Fill of 3013, buff brown silty clay loam inclusions of 1mm irregular red grit >3%, contained pottery.
3013	3	Large flattened 'D' shape cut aligned NW-SE (approximately 0.60m) possible over cut during excavation, only one edge of the cut was exposed within the evaluation trench.
3014	3	Possible pit feature only observed during excavation of evaluation trench in line with 3008 3009, but located towards the west of the evaluation trench and west of features 3004, 3007.
3015	3	Fill of 3013
4001		Plough soil , dark brown, ploughed in crop debris (0.30m, 0.48m max depth)
4002		Subsoil, buff yellow mouldable containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.15m-0.20m depth)
4003		Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches and white grit inclusions, No archaeological feature of significance identified at this level.
5001		Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
5002		Subsoil, buff yellow mouldable clay containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.20m depth)

Context	Trench	Description
5003		Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, No archaeological feature of significance identified at this level. Modern land drain
6001	5	Plough soil , dark brown, ploughed in crop debris (0.35m, depth)
6002	5	Subsoil, buff yellow mouldable clay containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.15m depth)
6003	5	Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, No archaeological feature of significance identified at this level. Modern land drain
7001	7	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
7002	7	Subsoil, buff yellow mouldable clay containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.20m depth)
7003	7	Subsoil (Excavated Base Level) buff yellow mouldable clay loam with grey patches, no white flecks. No archaeological feature of significance identified at this level.
8001	9	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
8002	9	Subsoil, buff yellow mouldable clay containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.20m depth)
8003	9	Subsoil (Excavation Base Level) buff yellow mouldable clay loam with grey patches, no white flecks. No archaeological feature of significance identified at this level.
9001	9.1	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
9002	9.1	Subsoil, buff yellow mouldable clay containing very small white irregular grit particle >1% and small rounded pebbles >5% (0.20m depth)
9003	9.1	Subsoil (Excavation Base Level) buff yellow mouldable clay loam with grey patches, no white flecks.
9004	9.1	Spread of coal deposit located across western end of evaluation trench, target identified through geophysical survey, possible remains from raked out coal fire, associated with stream ploughing.
10001	10	Plough soil , dark brown, ploughed in crop debris (0.35m, depth)
10002	10	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
10003	10	Subsoil (Excavation Base Level) buff yellow mouldable clay loam with grey patches. Cut by a series of clay land drains
10004	10	Fill of 10005, grey brown silty clay loam, no dating evidence, possible field boundary
10005	10	Cut Filled by 10004, 'D' shaped gully aligned approximately N-S, 1.10m wide and 0.30m deep.
10006	10	Fill of 10007, black clinker filled feature, 0.15m wide, not excavated, possible modern water pipe, filled with clinker to avoid accidental excavation.

Context	Trench	Description
10007	10	Cut filled by 1006, not excavated as feature had modern appearance
11001	11	Plough soil , dark brown, ploughed in crop debris (0.35m, depth)
11002	11	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
11003	11	Archaeological sterile layer (Excavated Base Level) red and grey clay loam, cut by a series of clay land drains
12001	12	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
12002	12	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
12003	12	Archaeological sterile layer (Excavation Base Level) red and grey clay loam, cut by a series of clay land drains
13001	13	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
13002	13	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
13003	13	Archaeological sterile layer (Excavation Base Level) red and grey clay loam,
13004		Fill of 1305, grey brown silty clay loam, no dating evidence, possible field boundary
13005		Cut Filled by 1304, linear gully aligned approximately N-S 1.10m wide not excavated to avoid damage to clay land drain that was located within fill
14001	14	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
14002	14	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
1403	14	Archaeological sterile layer (Excavation Base Level) of red and grey clay.
15001	15	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
15002	15	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
15003	15	Archaeological sterile layer (Excavation Base Level) of red and grey clay.
16001	16	Plough soil , dark brown, ploughed in crop debris (0.25m, depth)
16002	16	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.20m depth)
16003	16	Archaeological sterile layer (Excavation Base Level) of red and grey clay.
17001	17	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
17002	17	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.20m depth)
17003	17	Archaeological sterile layer (Excavation Base Level) of red and grey clay.
18001	18	Plough soil , dark brown, ploughed in crop debris (0.35m, depth)

Context	Trench	Description
18002	18	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.20m depth)
18003	18	Archaeological sterile layer (Excavation Base Level) of red and grey clay.
19001	19	Plough soil , dark brown, ploughed in crop debris (0.30m, depth)
19002	19	Subsoil, buff yellow mouldable clay containing very small rounded pebbles >5% (0.25m depth)
19003	19	Archaeological sterile layer (Excavation Base Level) of reddish brown clay

Appendix 1.3 Drawing register

Drawing	Section	Plan	Description
1	–	Schematic location plan–gps surveyed	Plan of Trench 1
2	Section 1:20	–	Section showing cuts 2005, gps levels
3	–	Schematic location plan–gps surveyed	Plan of Trench 2, before excavation of extra area
4	–	Schematic location plan–gps surveyed	Plan of Trench 3
5	Section 1:20	–	Section showing cuts 3004,3007 , gps levels
6	Section 1:20	–	Section of 3013, gps levels
7	–	Schematic location plan–gps surveyed	Plan of Trench 10
8	–	Schematic location plan–gps surveyed	Plan of Trench 11
9	–	Schematic location plan–gps surveyed	Plan of Trench 12
10	Section 1:20	–	Section showing cut 1005, gps levels
11	–	1:20 plan–gps surveyed	Plan of Trench 2 extra are, showing building.
12	Section 1:20	–	Section showing cut 2014, gps levels
13	Section 1:20	–	Section showing cuts 2010,2012, gps levels

17

Appendix 1.4 Photographic register

Photo	B/W	C/S	Digital	Direction	Description
1	y	y	y	NE	General view of Trench 1
2	–	–	y	NE	General view of Trench 1
3	–	–	y	NE	General view of Trench 1
4	y	y	y	SW	Sectioned feature 1005



Photo	B/W	C/S	Digital	Direction	Description
5	y	y	y	SE	Sectioned feature 1005
6	y	y	y	SW	Gravel spread feature 1006
7	y	y	y	SW	Sectioned feature 2006
8	y	y	y	NE	View of Trench 2 showing 2006 and 2007
9	y	y	y	SW	View of Trench 3 showing 3004 and 3007
10	-	-	y	-	Detail of potter visible within 3008
11	-	-	y	-	Detail of potter visible within 3008
12	-	-	y	-	Possible stake holes within trench 3
13	-	-	y	-	Possible stake holes within trench 3
14	-	-	y	-	Feature 3009
15	y	y	y	SW	Feature 3010
16	y	y	y	NW	Feature 3011
17	-	-	y	NW	Feature 3011
18	-	-	y	NW	Feature 3011
19	-	-	y	NE	General view of trench 3
20	y	y	y	SE	Section 3013
21	-	-	y	SE	Section 3013
22	-	-	y	SE	Section 3013
23	y	y	y	SW	General view of trench 4
24	y	y	y	NW	General view of Section, trench 4
25	y	y	y	SW	General view of trench 5
26	y	y	y	NW	General view of Section, trench 5
26	y	y	y	SW	General view of trench 6
28	y	y	y	NW	General view of Section, trench 6
29	y	y	y	SE	General view of trench 8
30	y	y	y	SSW	General view of Section, trench 8
31	y	y	y	E	General view of trench 10
32	y	y	y	S	General view of Section, trench 10
33	y	y	y	E	General view of trench 11
34	y	y	y	S	General view of Section, trench 11
35	y	y	y	NE	General view of trench 10
36	y	y	y	SE	General view of Section, trench 10

Photo	B/W	C/S	Digital	Direction	Description
37	y	y	y	NE	General view of trench 10
38	y	y	y	SE	General view of Section, trench 10
39	y	y	y	S	Feature 10006
40	y	y	y	S	Feature 10004
41	-	-	y	S	Feature 10004
42	y	y	y	NE	General view of trench 12
43	y	y	y	SE	General view of Section, trench 12
44	y	y	y	SW	General view of trench 14
45	y	y	y	SE	General view of Section, trench 14
46	y	y	y	E	General view of trench 14
47	y	y	y	S	General view of Section, trench 14
48	y	y	y	NE	General view of trench 17
49	y	y	y	SE	General view of Section, trench 17
50	y	y	y	SE	General view of trench 16
51	y	y	y	SW	General view of Section, trench 16
52	y	y	y	SW	General view of Section, trench 18
53	y	y	y	SE	General view of trench 18
54	y	y	y	SW	General view of Section, trench 19
55	y	y	y	SE	General view of trench 19
56	y	y	y	NE	General view of trench 9
57	y	y	y	SW	General view of trench 9 feature 9004.1
58	y	y	y	NW	Trench 2 structure 2011
59	-	-	y	NW	Trench 2 structure 2011
60	-	-	y	NW	Trench 2 structure 2011
61	-	-	y	NW	Trench 2 structure 2011
62	-	-	y	NW	Trench 2 structure 2011
63	-	-	y	NW	Trench 2 structure 2011
64	-	-	y	NW	Trench 2 structure 2011
65	-	-	y	NW	Trench 2 structure 2011
66	-	-	y	NW	Trench 2 structure 2011
67	-	-	y	NW	Trench 2 structure 2011
68	-	-	y	NW	Trench 2 structure 2011
69	-	-	y	NW	Trench 2 structure 2011
70	-	-	y	NW	Trench 2 structure 2011

Photo	B/W	C/S	Digital	Direction	Description
71	y	y	y	NE	Trench 2 section across 2011,2007
72	-	-	y	NE	Trench 2 section across 2011,2007
73	-	-	y	NE	Trench 2 section across 2011,2007
74	-	-	y	SE	Trench 2 structure 2011
75	-	-	y	SE	Trench 2 structure 2011
76	-	-	y	SE	Trench 2 structure 2011
77	-	-	y	SE	Trench 2 structure 2011
78	-	-	y	SE	Trench 2 structure 2011
79	-	-	y	NE	Trench 2 structure 2011
80	-	-	y	NE	Trench 2 structure 2011
81	-	-	y	NE	Trench 2 structure 2011
82	-	-	y	NE	Trench 2 structure 2011
83	-	-	y	NE	Trench 2 structure 2011
84	-	-	y	NE	Trench 2 structure 2011
85	-	-	y	NE	Trench 2 structure 2011
86	-	-	y	NE	Trench 2 structure 2011
87	y	y	y	NW	Trench 2 section across 2013



Appendix 2 Finds Assessment

by Julie Lochrie & Jane Timby

Roman pottery

Introduction and methodology

The archaeological work resulted in a small assemblage of 24 sherds of pottery, weighing 346g.

All the pottery dates to the Roman period but there are very few chronologically diagnostic sherds present in terms of fabric or form with only two rim sherds.

The sherds are of mixed preservation comprising some larger pieces mixed with smaller more abraded sherds. Nine sherds in context [3008] come from a single vessel. The average sherd size of 14g is typical of rubbish material.

Pottery was recovered from eight individual contexts with the quantities ranging from single sherds up to a maximum of nine sherds, although these are from a single vessel. This low incidence of sherds along with the general dearth of diagnostic pieces means that dating can only be quite general. With so few sherds the question of possible residuality cannot be addressed.

For the purposes of this assessment the material was scanned macroscopically and sorted into fabrics based on firing colour and inclusions (type, size and frequency) in the clay. The sorted fabrics were quantified by sherd count and weight and a note made of the forms present from the rim sherds. Known named traded Roman wares were coded using the National Roman fabric reference collection codes (codes in brackets) (Tomber and Dore 1998). Table A2.1 summarises the data for each context with a provisional spot date for the group.

Tr	Context	Samian	SVW	CW	Tot No	Tot Wgt	Date
1	1004	-	1	-	1	1	Roman
2	2004	-	2	3	5	42	C2?
2	2006	-	-	1	1	4	Roman
2	2011	-	2	-	2	9	C2-C4
2	2013	-	1	-	1	21	C2-C4
3	3008	-	-	9	9	193	Roman
3	3009	1	1	-	2	64	mid C2
3	3012	-	1	2	3	12	C2-C4
TOTAL		1	8	15	24	346	

(SVW=Severn Valley Ware; CW=Coarseware)

Table A2.1

Quantification of pottery by context, with spot dating

Description

The assemblage comprises mainly local wares, in particular oxidised and reduced Severn Valley ware (SVWOX, SVWRE),

accompanied by a range of other probably local vessels. There are no obvious regional traded wares and just a single continental import in the form of a Samian dish.

The Samian vessel, from [3009] is a base sherd from a Central Gaulish dish, probably a Dragendorff form 31 or 31R and likely to have been made around the middle of the 2nd century. It was associated with a small rim of Severn Valley ware, possibly from a small tankard or a jug.

The only other featured sherd is an everted jar from [2004] in a grey sandy ware.

The remaining assemblage comprises a further seven sherds of Severn Valley ware in both oxidised and reduced fabrics and fourteen sherds of oxidised or reduced fine sandy wares from six vessels. Severn Valley wares were made throughout the Roman period with a peak of production in the 2–3rd centuries. It was a conservative industry with little typological change in many of its products. The earlier wares dating to the 1st century tend to have slightly less refined fabrics with a greater number of inclusions. Their absence here would suggest the sherds date from the 2nd century onwards.

Ceramic building material/Fired clay

Two pieces of Roman tile (63g) were recovered from [2011]. The larger piece is quite thin which may suggest it is from a box flue as opposed to a roofing tile.

There were also two pieces of fired clay (28g), possibly burnt daub or abraded ceramic building material (CBM). One was recovered from [3008] associated with Roman pottery. The other was retrieved from [3005], though had no accompanying finds to provide dating.

Lithics

Three flint finds were recovered, associated with Roman pottery in [2013]. It is unclear if any have been deliberately struck but all are burnt which points towards on-site activity of some sort.

Potential and recommendations

This is a very small assemblage of Roman pottery, which is really too small to characterize the site other than to intimate that there was activity in the 2nd century and possibly later and that there was a building in the vicinity using ceramic building material. An absence of other traded wares might suggest a relatively modest settlement but this may be a quirk of the small sample.

No further work is recommended on this assemblage unless additional material is recovered from the site in the course of any subsequent programme of archaeological work during construction. In this case this material should be taken into account.

References

Tomber, R & Dore, J 1998 *The National Roman fabric reference collection: a handbook*, Museum of London / English Heritage/ British Museum.

Catalogues

Pottery & CBM

Tr	Context	Fabric	Description	Form	Wgt (g)	Sherds	Date
	305	CBM/FC	ceramic building material / fired clay	fragment	2	1	?
1	1004	SVWOX	Severn Valley ware (oxidised)	body sherd	1	1	Roman
2	2004	SVWRE	Severn Valley ware (reduced)	body sherd	31	2	Roman
2	2004	GY	grey, slightly sandy	rim jar	19	1	Roman
2	2004	OXIDF	fine, micaceous oxidised	body sherd	2	2	Roman
2	2006	GY	grey sandy	body sherd	4	1	Roman
2	2011	CBM	ceramic building material	tile	63	2	Roman
2	2011	SVWRE	Severn Valley ware (reduced)	body sherd	9	2	Roman
2	2013	SVWOX?	Severn Valley ware (oxidised)	body sherd	21	1	Roman
3	3008	CBM/FC	ceramic building material / fired clay	lump	26	1	Roman
3	3008	GY	grey sandy	base 1 vessel	193	9	Roman
3	3009	SVWOX	Severn Valley ware (oxidised)	rim jug/tankard	4	1	Roman
3	3009	LEZSA	Central Gaulish Samian (Lezoux)	31/31R base	60	1	mid C2
3	3012	?SVWRE	fine grey sandy	body sherd	9	2	Roman
3	3012	SVWOX	Severn Valley ware (oxidised)	body sherd	3	1	Roman

Finds

Tr	Context	Material	Object	Description	Qty	Spot Date
2	2013	Lithics	Flint	Unclear if any have been deliberately struck but retained due to the burnt condition of three which may indicate on-site burning activities	3	-



Appendix 3 Faunal remains assessment

by Tegan Daly

Introduction

Fieldwork at Starbold Wind Farm, Warwickshire, produced a small assemblage of animal bone from five contexts. Of these contexts three ([2004], [2011], [3012]) were securely dated to 2nd to 4th century AD - the site comprises a Romano-British occupation area. The bone was retrieved by hand-recovery which may have created a bias towards the recovery of larger mammals, with the smaller bones of, for example, birds not being recovered. The assemblage is summarised in Table A3.1.

Context	Weight (g)	Total No. (TNF)	% Total No.
1004	131.99	14	27.32%
2004	103.01	7	21.32%
2008	45.50	31	9.53%
2011	191.10	12	39.56%
3012	10.98	1	2.27%
Total	483.10	65	100.00%

Table A3.1

Bone recovery by context

Results

The assemblage comprises 65 fragments (by initial count) of which were all characterised by fair to good preservation; such preservation is unusual considering the slightly acidic nature of the soils in this area (www.landis.org.uk/soilscapes). Table A3.1 illustrates the extent of fragmentation showing that context [2008] contained the most fragmented bone resulting in the highest amount of unidentified bone, along with context [1004] (Table A3.2).

Sheep/goat dominates the assemblage by number of fragments and in total, taking differing contexts into account, a minimum number of four cattle, five sheep, and one horse were present on site. Age could be ascertained for a total of two mandibular teeth from [2011] and eleven un-fused bones from [2008]. In context [2011] the ageable individuals represented one adult horse and one adult cow; the age of the former indicates that it was used for milk, manure and/or traction rather than meat. Of the ageable individuals in context [2008] a minimum number of two lambs aged to around 10 weeks were present, which suggest animals were being bred on-site: surplus animals were often killed early to save the ewe's milk for human consumption. Animals not suitable as breeders (the majority of males) or with lesser wool quality were also often killed young. The body-parts present are evenly represented suggesting that whole carcasses or live animals were present on-site.

There was very limited evidence of butchering, with one chop mark present on a sheep-seized mandible from [2004] which is indicative of segmentation of the carcass (Maltby 1989). There was no evidence of pathology.

Potential for further work

Although preservation is good, data available from the Starbold assemblage is restricted by its small size, with limited age-at-death and metrical evidence. A range of Romano-British sites with animal bone assemblages have been uncovered within Warwickshire and the Midlands (Alberella and Pirnie 2008) in which Starbold can be included; however most of the assemblages are of a more substantial nature (eg Alcester - Ayres and Clark 2001) and the small size of the Starbold assemblage negates worthwhile comparison. It is unlikely that any further information will be gained by analysis of this assemblage. Should further work take place on the site and larger quantities of bone be recovered, study of this assemblage should be included with it.

Methodology

The assessment follows English Heritage MAP2 (1991) and Environmental Guidelines (2011).

The small size of the mammal bone assemblage negated the need to sub-sample, and so all bones have been catalogued for this assessment.

Numbers of identifiable, ageable and measurable specimens, as well as the preservation and modification of the bone, was recorded to allow assessment of quantity, quality and information potential of the recovered material. Identification referred to the Headland reference collection (Alcester unstratified) and Schmid 1972. Fragments not identifiable to species or genus level were generally allocated to an approximate category, either sheep/goat, 'cattle-sized' or 'sheep-sized' as appropriate. Bones were considered ageable if the state of epiphiseal fusion could be ascertained (Silver 1969) or mandibles had one or more molar teeth present (Grant 1982, Payne 1973). The number of measurable elements follows Von der Driesch (1976). The minimum number of individuals (MNI) is also calculated for each species by taking into account bone part and side; the most common repeating bone element represents the MNI.

Context	Horse	Cattle	Sheep/goat	Sheep-sized	Unidentif*	NISP	MNI	Ageable	Measurable
1004	0	1	2	11	0	3	2	0	0
2004	0	6	0	1	0	6	1	0	0
2008	0	0	20	1	10	20	2	17	1
2011	1	2	1	2	6	4	3	2	0
3012	0	0	1	0	0	1	1	0	0
Total	1	9	24	15	16	29	10	19	1

*unidentifiable – very small fragments of long bone shafts

Table A3.2

Summary of faunal assemblage

References

- Ayres, K & Clark, K 2001 'Animal bones' in Mudd, A & Booth, P *Site of the former Hockley Chemical Works, Stratford Road, Alcester: excavations 1994*, pp49–53 and Appendix pp70–74.
- English Heritage 2011 *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation, (2nd edition)*, Swindon: English Heritage.
- English Heritage. 1991 *Management of Archaeological projects*, London: English Heritage
- Grant, A 1982 'The Use of Tooth Wear as a Guide to the Age of Domestic Ungulates' in Wilson, B, Grigson, C & Pyne, S (eds.), *Ageing and Sexing Animal Bones from Archaeological Sites*, Oxford: British Archaeological Reports, British Series 109: pp91–108.
- Maltby, M 1989 'Urban-rural variation in the butchering of cattle in Romano-British Hampshire' in Serjeantson, D & Waldron, T (eds.), *Diets and Crafts in Towns*, Oxford: British Archaeological Reports, British Series 199: pp75–106.
- Payne, S 1973 'Kill-off Patterns in Sheep and Goats: The Mandible from Asvan Kale', *Anatolian Studies: Journal of the British Institute of Archaeology at Amkara* 23: pp281–303.
- Schmid, E 1972 *Atlas of Animal Bones*. Amsterdam: Elsevier.
- Silver, I 1969 'The ageing of domestic animals' in Brothwell, D & Higgs, E (eds.), *Science in Archaeology*, London: Thames and Hudson, pp293–302.
- Alberella, U & Pirnie, T 2008 *A Review of Animal Bone evidence from Central England*, Available on the Archaeological Data Service website (accessed October 2012): http://archaeologydataservice.ac.uk/archives/view/animalbone_eh_2007/downloads.cfm#documentation
- Von der Driesch, A 1976 *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Harvard University.



Appendix 4 Palaeoenvironmental assessment

by Orla-Peach Power

Introduction

An archaeological evaluation undertaken at Starbold Wind Farm, Warwickshire led to the discovery of two ditch features thought to be of Romano-British date. During the course of the evaluation bulk samples were taken for the retrieval of palaeoenvironmental and archaeological materials that may provide evidence for the dating of these features and for the nature of human activity on the site in the past.

This report presents the results of the bulk sample assessment from these features. A total of two bulk samples were taken during investigations of which all were processed for assessment. The aims of the assessment were to:

- Assess the presence, preservation and abundance of any palaeoenvironmental materials within the samples.
- Assess the potential of the material for any indications of the use of these features.
- Assess whether a proxy-date for these features can be provided based on any palaeoenvironmental materials present.

Method

24 Samples were processed in laboratory conditions using a standard floatation method (cf. Kenward *et al*, 1980). All plant macrofossil samples were analysed using a stereo-microscope at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases including Cappers *et al* (2006).

Results

The results of the sample processing are provided in Tables A4.1 (Retent finds) and A4.2 (Floatation finds). Plant remains were preserved through charring while faunal remains were un-charred.

Charred Plant Remains (CPR)

Charred cereal grains were identified in low frequencies in [3005], the fill of a linear feature, probably a field boundary (Table A4.1 and A4.2). The cereal grains identified were wheat sp. (*Triticum* sp.), emmer wheat (*Triticum dicoccum*), hulled barley (*Hordeum vulgare*) and possible oat (cf. *Avena* sp.). A small number of indeterminate cereal grains (*Cerealia* indet.) were present in both samples which were too poorly preserved to identify to species level. The level of preservation was moderate to poor in [3005] with a number of grains showing evidence of abrasion on the surface. This damage to the grains suggests some taphonomic movement of grain together with exposure to prolonged burning episodes, respectively. Along with the charred grain small quantities of chaff in the form of awn fragments were also recovered in [3005].

Charcoal fragments were present in rare to common quantities within both samples processed (Table A4.2). The charcoal fragments were small in size and were more representative of flecks, with maximum fragment size recorded as ranging from 0.1 to 0.2cm in size. These charcoal fragments were too small to identify visually as oak or non-oak.

Other finds

Along with the charred plant remains recovered a range of other material was identified (Table A4.1). Daub was identified in [3005] only. Marine shell was identified in rare quantities in [3005] while terrestrial shell was identified in occasional quantities in [2013]. Rare to occasional quantities of unburned mammal bone were present in both samples while a rare quantity of burnt flints were present in the boundary feature fill [2013] only.

Discussion

The results are discussed in relation to the main activities taking place at the site.

A rare quantity of charred cereal grain was recovered from [3005]. The charred cereal grains recovered from this feature provide some evidence for the agricultural economy in place while the ditch was active. The assemblage was dominated by wheat species (*Triticum* sp.) followed by hulled barley (*Hordeum vulgare*) and possible oats (cf. *Avena* sp.). The low frequency of grains, however, means that the cereals identified may not be entirely representative of the agricultural economy as a whole.

The rare quantity of awn fragments identified in [3005] would indicate that small scale processing of cereals was carried out on site and is likely to have occurred within a domestic setting.

The environmental remains identified from within the ditch were found to contain rare to moderate quantities of charred grain indicative of domestic waste including probable cereal processing waste in the form of awn fragments. The samples taken from the fills [3005] and [2013] of two ditches were also found to contain samples of un-burnt mammal bones which were likely discarded during food preparation process. The presence of charred cereal grains, processing waste and un-burnt mammal bone within the ditch fills is indicative of domestic waste disposal. The disposal of domestic waste in ditches is quite common across archaeological sites; however, the grain assemblage of oat, hulled barley and wheat sp. would not be out of place in a Romano-British context.

Conclusion

- A small quantity of CPR including rare to moderate charred cereal grain was recovered from the processed samples. Grain preservation was observed to be poor to moderate.
- The small range of cereals recovered from [3005] provides some limited information on the arable economy in place while boundary was active.
- The assemblage is suggested to represent refuse deposits of household waste and indicates some domestic processing of grain took place.

Context	Sample Vol (l)	Stone					Charred plant	Material available for AMS Dating	Comments
		CBM	Lithics	Mammal	Shell				
					Marine	Terrestrial			
Daub									
305	2	+		+	+		+	-	Charred grain is Triticum sp. +, cf. Avena sp. +
2013	30		+	++					Unburnt Bone +

Table A4.1

Retent sample results

Context	Total flot Vol (ml)	Cereal grain					Other plant remains	Charcoal		Material available for AMS	Comments
		cf. Avena sp.	Hordeum vulgare	Triticum sp.	Triticum dicoccum	Cerealia indet.		Qty	Max size (cm)		
305	1	+	+	+	+	+	Awn fragments ++	++	0.1	-	
2013	5					+		+	0.2	-	Molluscs ++ (2 Types)

Key: + = rare (0-5), ++ = occasional (6-15), +++ = common (15-50) and ++++ = abundant (>50)

NB charcoal over 1cm is suitable for identification and AMS dating

Table A4.2

Flotation sample results

Statement of potential

The low incidence and poor preservation of the charred plant remains identified at Starbold Wind Farm, Warwickshire, suggests that there is limited potential to provide any further information on the activities taking place at the site beyond the assessment results. Should a larger assemblage be recovered in the course of further work, the evaluation assemblage should be integrated into any further analysis.

References

- Cappers, RTJ, Bekker, RM & Jans JEA 2006 *Digital seed atlas of the Netherlands*, Barkhuis Publishing and Groningen University Library, Groningen.
- Kenward, HK, Hall, AR & Jones, AKG 1980 'A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits', *Science and Archaeology* 22, pp3-15.



Headland Archaeology (UK) Ltd
© Headland Archaeology (UK) Ltd 2012

Midlands & West

Headland Archaeology
Unit 1, Premier Business Park, Faraday Road
Hereford HR4 9NZ
01432 364 901
hereford@headlandarchaeology.com

South & East

Headland Archaeology
Technology Centre, Stanbridge Road
Leighton Buzzard LU7 4QH
01525 850878
leighton.buzzard@headlandarchaeology.com

North East

Headland Archaeology
13 Jane Street
Edinburgh EH6 5HE
0131 467 7705
office@headlandarchaeology.com

North West

Headland Archaeology
10 Payne Street
Glasgow G4 0LF
0141 354 8100
glasgowoffice@headlandarchaeology.com

www.headlandarchaeology.com