Cotswold Archaeology

Land off Farrier's Road and Poplar Hill
Stowmarket
Suffolk

Archaeological Evaluation

HER Event no: COM 041

OASIS no: Cotswold2-199142

for

Construct Reason Ltd

CA Project: 660405
CA Report: 15079

February 2015

Land off Farrier's Road and Poplar Hill Stowmarket Suffolk

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prepared by date	Ralph Brown, Project Supervisor 10 February 2015
checked by date	Nicola Powell, Post-Excavation Manager 18 February 2015
approved by signed date	Simon Carlyle, Principal Fieldwork Manager  19 February 2015
issue	01

Cirencester
Building 11
Kemble Enterprise Park
Kemble, Cirencester
Gloucestershire, GL7 6BQ
t. 01285 771022
f. 01285 771033

Milton Keynes
41 Burners Lane South
Kiln Farm
Milton Keynes
MK11 3HA
t. 01908 564660

Andover
Stanley House
Walworth Road
Andover, Hampshire
SP10 5LH
t. 01264 347630

e. enquiries@cotswoldarchaeology.co.uk

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LIST OF ILLUSTRATIONS

SUMMARY

Project Name:	Land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk
Location:	Stowmarket, Suffolk
NGR:	TM 0426 5715
Type:	Evaluation
Date:	19 January-3 February 2015
Location of Archive:	Suffolk County Archaeological Stores
Site Code:	COM 041

During January and February 2015, Cotswold Archaeology carried out an archaeological evaluation of land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk. The evaluation, which was commissioned by Construct Reason Ltd, formed part of a programme of archaeological works being carried out prior to the residential development of the site.

The evaluation comprised the excavation of twenty-eight 30m trial trenches in three fields. Possibly the earliest remains were encountered in the southern part of the site, where two sherds of Roman pottery were recovered from a ditch that may have formed part of a rectilinear enclosure on the crest of the hill. Further to the north, near the base of the slope that overlooks the small stream that forms the site's northern boundary, a medieval ditch system was investigated. Sherds of 11th to 14th-century pottery were recovered from two of the ditches, along with a small assemblage of animal bone; the other ditches in this area are undated but several are probably associated with the ditch system. Other features included former field boundary ditches, agricultural trenches and a modern quarry pit.

1. INTRODUCTION

1.1 During January and February 2015, Cotswold Archaeology (CA) carried out an archaeological evaluation of farmland off Farrier's Road and Poplar Hill, Stowmarket, Suffolk (site centred on NGR: TM 0426 5715; Fig.1). The evaluation, which was commissioned by Construct Reason Ltd, formed part of a programme of archaeological works being carried out prior to the proposed residential development of the site.

1.2 The scope of the evaluation was outlined in a *Written Scheme of Investigation* (WSI) prepared by CA (2015; Appendix A), the details of which were based on discussions with Matthew Brudenell, Senior Archaeological Officer with Suffolk County Council's Archaeological Service (SCCAS). The discussions were informed by a desk-based assessment of the site prepared by CA (2014) and a geophysical survey of the southern part of the site undertaken by ArchaeoPhysica (2014; Appendix B). The WSI was guided in its preparation by *Standards for Field Archaeology in the East of England* (Gurney 2003) and *Requirements for a Trenched Archaeological Evaluation* (SCCAS 2011).

1.3 The evaluation was undertaken in accordance with the WSI (CA 2015) and abided by the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluation* (CIfA 2014) and the English Heritage (EH) procedural documents *Management of Archaeological Projects 2* (EH 1991) and *Management of Research Projects in the Historic Environment (MoRPHE): Project Manager's Guide* (EH 2006). The fieldwork was monitored by Matthew Brudenell, SCCAS, with a site visit being made on 26 January 2015.

The site

1.4 The site, which covers an area of *c.* 11 ha, comprises a block of farmland on the southern edge of Stowmarket, to the south-west of the suburb of Combs Ford, approximately 1.3km to the south of the town centre (Figs. 1 and 2). The land straddles a spur of high ground that lies between two small streams that flow north-eastwards into Rattlesden River. On the north-facing slope the site comprises two fallow fields (Fields 1 and 2; Figs 5 and 6), partly overgrown with scrub and bordered by thick hedgerows; on the crest of the spur and on the south-east-facing slope it comprises parts of two large arable fields (Fields 3 and 4; Fig. 7), separated by Poplar Hill, the road that runs between Combs Ford and the village of Combs.

Ground level descends from *c.* 57m above Ordnance Datum (aOD) at the crest of the spur down to *c.* 42m at the stream that borders the northern edge of the site and 49m aOD at its south-eastern corner. With the exception of the land to the south-east of Poplar Hill (Field 4), which lies within the parish of Stowmarket, the site largely lies within the parish of Combs.

1.5 The solid geology of the site comprises Neogene/Quaternary sandstone of the Crag Group (BGS 2015). This is overlain by superficial chalky till deposits of the Lowestoft Formation, with poorly-sorted sand and gravel Head (a solifluction deposit formed under permafrost conditions) occurring adjacent to the small stream at the northern edge of the site.

Archaeological and historical background

1.6 The archaeological and historical background of the site has been presented in detail in the *Archaeological Desk-based Assessment* prepared by CA (2014). In brief, this established that a Cold War Royal Observer Corps monitoring post, now demolished, was once located on the crest of the slope, near the site's south-western boundary. No other designated or undesignated heritage assets where located within the site. In the wider landscape, extensive scatters of prehistoric worked flint were recovered by fieldwalking on land *c.* 300m to the south-east of the site and medieval earthworks are recorded nearby at Combs Hall, and at Combs Ford, approximately 200m to the north-east.

1.7 The results of the geophysical survey of the southern part of the site (Field 3), in the arable field to the north-west of Poplar Hill (ArchaeoPhysica 2014; Appendix B), showed no anomalies of archaeological significance within the surveyed area, other than a linear anomaly close to its southern edge. Other anomalies related to former field boundaries, modern services and the probable buried remains/debris of the Cold War monitoring station.

Archaeological objectives

1.8 The objectives of the evaluation, as set out in the WSI (CA 2015; Appendix A), were to provide information about the archaeological resource within the site, with specific aims to:

- investigate the anomalies shown on the geophysical survey results and test the veracity of the survey through the excavation of trenches in apparently 'blank' areas;
- identify the date, approximate form and purpose of any archaeological deposits encountered, together with their likely extents, localised depths and quality of preservation;
- evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits;
- establish the potential for the survival of palaeoenvironmental evidence through a programme of environmental sampling.

1.9 This information will enable SCCAS, archaeological advisor to Mid Suffolk District Council (the local planning authority), to identify and assess the particular significance of any heritage asset, consider the impact of the proposed development upon it, and to avoid or minimise conflict between the heritage asset's conservation and any aspect of the development proposal, in line with the *National Planning Policy Framework* (DCLG 2012). Reference has been made to *Research and Archaeology Revisited: A Revised Framework for the East of England* (Medleycott 2011) in the preparation of this report.

Methodology

1.10 The fieldwork comprised the initial excavation of twenty-five 30m trenches in the locations shown in Figure 2 (750 linear metres, all 1.8m wide). With the agreement of SCCAS, several trenches in Fields 1 and 2 were relocated slightly from their approved positions to avoid dense patches of vegetation. Following the site meeting with SCCAS, a further three trenches were excavated to determine the extent of ditches encountered in several of the trenches in Field 2 (Trenches 26-28; 90 linear metres, all 1.8m wide).

1.11 The trenches were set out on OS National Grid (NGR) co-ordinates using Leica GPS and surveyed in accordance with *Technical Manual 4: Survey Manual* (CA 2012).

1.12 The trenches were excavated using a 360° tracked mechanical excavator equipped with a toothless grading bucket. All machine excavation was undertaken under constant archaeological supervision to the top of the first significant archaeological

horizon or the geological substrate, whichever was encountered first. Where archaeological deposits were encountered they were excavated by hand in accordance with *Technical Manual 1: Fieldwork Recording Manual* (CA 2013).

1.13 Deposits were assessed for their palaeoenvironmental potential in accordance with *Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites* (CA 2003). Three 40 litre samples were taken from archaeological deposits. The artefacts were processed in accordance with *Technical Manual 3: Treatment of Finds Immediately After Excavation* (CA 1995).

1.14 The archive and artefacts from the evaluation are currently held by CA at their offices in Milton Keynes. Subject to the agreement of the legal landowner the archive and artefacts will be deposited with Suffolk County Archaeological Stores. A summary of information from this project, as set out within Appendix E, will be entered onto the OASIS online database of archaeological projects in Britain (OASIS ref. Cotswold2-199142).

2. RESULTS

Summary

2.1 The evaluation comprised the excavation of twenty-eight 30m trial trenches (840 linear metres; Fig. 2) in three fields (Field 1–3). Possibly the earliest remains were encountered in the southern part of the site (Field 3, Trenches 22 and 25), where two sherds of Roman pottery were recovered from a ditch that may have formed part of a rectilinear enclosure on the crest of the hill. Further to the north, near the base of the slope that overlooks the small stream that forms the site's northern boundary, a medieval ditch system was investigated (Field 2, Trenches 4, 6, 7 and 27). Sherds of 11th to 14th-century pottery were recovered from two of the ditches, along with a small assemblage of animal bone; the other ditches in this area are undated but several are probably associated with the ditch system. Other features included former field boundary ditches, agricultural trenches and a modern quarry pit. There were no archaeological features in Trenches 1-3, 5, 8, 11, 12 and 14-20. Details of the features and deposits recorded by the evaluation are presented in Appendix C and are summarised below.

General stratigraphy

Field 1

2.2 In Field 1, which bordered the small stream at the northern edge of the site, the geological substrate was encountered at an average depth of *c.* 1.1m below current ground level (bcgl). It comprised superficial deposits of loose, light brownish-yellow sand and gravel with lenses of dark bluish-grey clay (Head deposit).

2.3 In Trench 1 the Head deposit (105) was overlain by a layer of dark humic silty soil (103), approximately 0.15m thick, which may have been marshy ground at the edge of the stream. This was overlain by a layer of light yellowish-brown silty sand (102), up to 0.21m thick, which was probably deposited by the stream, possibly during an episode of flooding. Subsoil and topsoil (101 and 100 respectively), with a combined thickness of *c.* 0.45m, subsequently accumulated over this former land surface. More recently, probably during the construction of the neighbouring housing estate, ground level was raised by *c.* 0.6m by the dumping and levelling out of soil and building waste (Fig. 8).

2.4 In Trenches 2 and 3 the Head deposit was overlain by mid greyish-blue silty clay (alluvium), with a maximum thickness of 0.8m. This was overlain by subsoil and topsoil horizons, which in turn were sealed by extensive deposits of modern made-ground.

Field 2

2.5 The geological substrate, which was encountered at a depth of *c.* 0.45m bcgl, was light yellowish-grey chalky clay (diamicton of the Lowestoft Formation). The overlying subsoil, comprising mid yellowish-brown clayey silt, was of variable thickness and ranged between 0.2m–0.8m, suggesting that the surface topography of the slope had been altered, possibly through quarrying and other activities. The topsoil, dark greyish-brown silty clay, was *c.* 0.3m thick.

Field 3

2.6 In the arable field the geological substrate was light yellowish-grey chalky clay (diamicton of the Lowestoft Formation). The thickness of the overlying subsoil, which comprised mid yellowish-brown clayey silt, ranged from *c.* 0.14m–0.41m, with the thinner subsoil occurring on the crest of the hill. The ploughsoil, dark greyish-brown silty clay, was *c.* 0.3m thick.

Fields 1 and 2

Medieval (1066-1540)

Trench 4

2.7 Passing through the south-east end of the trench on a north to south alignment was ditch 405, which measured 1.4m wide by 0.46m deep (Figs. 3 and 9). Seven sherds of medieval pottery dating from the 11th to 14th centuries and fragments of animal bone were recovered from its fill (406).

Trench 6

2.8 Ditch 605, which passed through the centre of the trench on a north to south alignment, measured 1.6m wide by 0.30m deep (Figs. 3 and 10). A sherd of medieval pottery dating from the 11th to 14th centuries and fragments of animal bone and shell were recovered from its fill (606).

Post-medieval to modern (1540-present)

Trench 26

2.9 This was an additional trench, excavated to investigate the possible southwards continuation of ditch 1303. Removal of the topsoil revealed a large quarry pit (2603), excavation of which would have removed any trace of the ditch, had it extended this far south. The quarry pit was visible on the surface of the field as a large, shallow circular depression with a diameter of *c.* 25m. A machine-dug slot was excavated through the fills of the quarry pit, which demonstrated that it was over 0.95m deep. Fragments of roofing slate, modern brick and tile and sherds of modern pottery were recovered from its fill (not retained).

Undated

Trench 4

2.10 A shallow, irregular linear feature, possibly a shallow ditch or hedgerow (403), passed through the centre of the trench on a north-east to south-west alignment. It measured 1.5m wide by 0.2m deep and contained a piece of fired clay.

Trench 6

2.11 Ditch 603 ran through the centre of the trench on a north-east to south-west alignment. It measured 0.9m wide by 0.36m deep and its fill contained fragments of animal bone.

Trench 7

2.12 Two ditches, 703 and 705, were identified in Trench 7. Ditch 703, which was located at the north-east end of the trench, was aligned north-south and measured 1.7m wide by 0.57m deep. Ditch 705, which is probably a continuation of ditch 2703 in Trench 27, was on an east to west alignment and measured at least 2.5m wide by more than 0.9m deep (base not attained).

Trenches 9, 10 and 28

2.13 Passing through these three trenches on a north-east to south-west alignment was ditch 903/1003/2803. Ditch 1003 measured 0.9m wide by 0.44m deep; ditch 2803 was slightly wider and deeper, measuring 1.6m wide by 0.48m deep (Figs. 3 and 12). Fragments of animal bone were recovered from ditch 2803.

Trench 13

2.14 Ditch 1303, which was located at the north-west end of the trench, was on a north to south alignment and measured 1.4m wide by 0.22m deep.

Trench 27

2.15 Ditch 2703 was a continuation of ditch 705 in Trench 7. It measured 4.4m wide by 1.2m deep and had a broad U-shaped profile with splayed sides and a gently concave base (Figs. 3 and 11). The clay fill (2707) on the southern side of the ditch suggests that there may have been a bank on this side, with clay from the bank slumping into the ditch during periods of wet weather. It is possible that the ditch may have been recut.

Field 3

Roman (AD43-AD410)

Trenches 22 and 25

2.16 Trenches 22 and 25 targeted two perpendicular linear geophysical anomalies in the southern part of Field 3, which appear to form two sides of a possible rectilinear enclosure. In Trench 22, ditch 2203 was aligned north-east to south-west, measured 1.4m wide by 0.68m deep and had steeply sloping sides and a flat base (Figs. 4 and 13). Two sherds of Roman pottery were recovered from its fill (2204). Although ditch 2503 did not contain any artefactual dating evidence (Figs. 4 and 14), the similarity in its size and profile with ditch 2203 suggests that it is contemporary. A soil sample was taken from ditch 2203, but it was found to be devoid of ecofactual material.

Post-medieval to modern (1540-present)

Trench 23

2.17 Corresponding with a linear anomaly shown on the geophysical results and a field boundary shown on historic mapping, ditch 2303 was aligned north-west to south-east, had a V-shaped profile and measured 1.2m wide by 0.8m deep (Figs. 4 and 15). A soil sample was taken from the ditch but it was found to be devoid of ecofactual material.

Undated

Trench 21

2.18 Three parallel ditches (2103, 2105 and 2107), spaced *c.* 7m apart, passed through the trench on a north-west to south-east alignment. They had steep-sided, flat-based profiles and were between 0.6m and 0.9m wide and up to 0.35m deep (Figs. 4 and 16).

Trench 22

2.19 Two ditches (2205 and 2207), similar to the parallel ditches investigated in Trench 21, were identified in this trench (Fig. 4). They had similar profiles and were on the same alignment.

Trench 23

2.20 At the south-west end of the trench, ditch 2305 was aligned north to south and measured 1.1m wide by 0.39m deep (Fig. 4). The ditch was not detected by the geophysical survey.

Trench 24

2.21 Three parallel ditches (2406, 2409 and 2411), similar to those investigated in Trench 21, were identified in this trench (Fig. 4). They had similar profiles and were on the same alignment.

2.22 Ditch 2403, which was roughly perpendicular to the alignment of the parallel ditches in this trench, measured 0.95m wide by 0.27m deep (Fig. 4). A soil sample was taken from its fill (2405), but it was found to contain no identifiale ecofactual material.

3 THE FINDS AND PALAEOENVIRONMENTAL EVIDENCE

The finds *by Jacky Somerville*

3.1 The finds recovered from the evaluation consist of flint, pottery and ceramic building material (brick/tile). The finds have been quantified by context in Appendix D, Table 1.

Worked flint

3.2 Twenty-two worked flint items were recovered from bulk soil sampling of deposits 2204 (ditch 2203) and 2405 (ditch 2403). Also recovered were 19 fragments (4g) of burnt, unworked flint. The worked flints consist of six flakes and 16 chips (debitage ≤10mm). None of the flints can be dated more precisely than to the prehistoric period and those from fill 2204 are residual in a probable Roman-dated feature.

Pottery

Roman

3.3 Two unfeatured bodysherds in a black-firing, sand-tempered fabric of broad Roman date were recovered from fill 2204 of ditch 2203.

Medieval

3.4 A total of eight bodysherds in sandy fabrics, dating to the 11th to 14th centuries, was recovered from fill 406 of ditch 405 and fill 606 of ditch 605. Those from fill 406 feature internal glaze.

Modern

3.5 Fill 2604 of quarry pit 2603 produced a bodysherd of 'late' English stoneware. This type of pottery is dateable to the mid 19th to mid 20th centuries.

Ceramic building material

3.6 A fragment of flat roof tile, of post-medieval date, was recorded in fill 2604 of quarry pit 2603.

The faunal remains *by Andy Clarke*

3.7 A small assemblage (11 fragments, 333g) of animal bone was recovered from four deposits (Appendix D, Table 2); of these, eight (228g) were in direct association with artefacts dating to the medieval period and recovered from the fills of ditches 405 and 605. The bone was in a poor state of preservation, showing signs of

exposure to the elements as well as historic and modern damage. However, it was possible to identify the remains of cattle (*Bos taurus*) from meat-poor skeletal elements.

3.8 The remaining bone was recovered from the fills of undated ditches 603 and 2803. Sheep/goat (*Ovis aries/Capra hircus*) and horse (*Equus callabus*) were identified from, as with the medieval bone, poorly preserved and fragmented meat-poor skeletal elements.

3.9 The above species are common and to be expected in assemblages from the Iron Age onwards (Baker and Worley, 2014).

3.10 The potential amount of useful interpretative data to be gleaned from such a small assemblage is understandably very limited. The combined factors of low recovery, high fragmentation and surface erosion, suggest that while there may be an origin in domestic waste, the assemblage is now more than likely residual in nature.

The palaeoenvironmental evidence *by Sarah Cobain*

3.11 Three environmental samples (60 litres of soil) were retrieved from three deposits with the intention of recovering evidence of industrial, agricultural or domestic activity. The samples were processed by standard flotation procedures, as outlined in *Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites* (CA 2003).

3.12 The samples were taken from a probable Roman ditch (2203), a former field boundary ditch (2303) and an undated ditch (2403) in Field 3. The samples contained no plant macrofossil or identifiable charcoal material. The absence of any ecofactual material precludes any assessment of the features' function or activities being undertaken in the surrounding area.

4. DISCUSSION

Fields 1 and 2

4.1 Due to the overgrown condition of the site when the geophysical survey was undertaken in 2014, Fields 1 and 2, which lie on a north-facing slope overlooking a

small stream, could not be surveyed. The trenches were therefore positioned to gain suitable coverage of accessible parts of the site.

4.2 In Field 1, excavation revealed deposits associated with the small stream that borders the northern edge of the site. The deposits included: a dark humic soil, possibly a relict marshy soil at the edge of an earlier course of the stream, which lay directly over the geological substrate; a sandy layer that was probably deposited by the stream during an episode of flooding; and silty clay alluvium. The age of these deposits is unknown but they demonstrate an active fluvial environment in this area prior to the containment of the stream in the deeply-cut channel in which it now flows.

4.3 The large mound in the south-western corner of the field, which was recorded by LiDAR survey (CA 2014, 17), was covered in dense brambles and vegetation at the time of the evaluation and could not be closely investigated. However, extensive deposits of modern building debris, in places up to 1m thick, were recorded in trenches across this field, so it is likely to be a mound of building waste left over from the development of the neighbouring modern housing estate.

4.4 On the lower slope in Field 2, the evaluation investigated two ditches (405 and 605), the fills of which contained medieval pottery dating to the 11th to 14th centuries, along with a small quantity of animal bone (predominately cattle bone). The ditches were aligned north to south and ran parallel to an undated ditch (703) that lay between the two, suggesting that they form part of a medieval ditch system. The ditch system may also incorporate a more substantial undated ditch (705 and 2703) that followed the contour of the slope on an east to west alignment, possibly forming the southern boundary of a series of rectilinear enclosures. It is possible that the undated ditches in Trenches 6 and 13 are also associated with the ditch system.

4.5 The purpose of the ditch system is uncertain, but the fills of the ditches were relatively sterile, so it is likely, given the paucity of other finds, that the ditches are probably the remains of livestock pens and were not associated with habitation. In the medieval period, the nearest known settlements were at Combs and Combs Hall, *c.* 0.7km to the south and south-east of the site respectively; metal detecting finds also indicate a possible settlement site *c.* 0.8km to west of the site, north of Jack's Grove. It is therefore possible that the ditch system was associated with the agricultural activities of one of these settlements. The earthwork remains of a

possible medieval fishpond, identified *c.* 200m to the east of the site, may also form part of this medieval rural landscape.

4.6 Two probable former field boundary ditches were identified in Field 2. In Trench 4, the ditch (403) appears to be a continuation of the north-east to south-west aligned section of hedgerow that forms part of the western boundary of the site. Similarly, the ditch passing through Trenches 9, 10 and 28 is probably a continuation of the north-east to south-west aligned 'kink' in the hedgerow that forms the southern boundary of Field 2. The Historic Landscape Characterisation for Suffolk records Fields 1 and 2 as 'pre-18th century enclosures of random fields', which probably date to the medieval period, possible earlier (Martin and Satchell 2008; CA 2014). It is therefore possible that the former field boundaries are of some antiquity and demonstrate partial field boundary reorganisation in the medieval or post-medieval periods.

4.7 The former quarry pit in the south-west corner of Field 2 was visible on the surface of the field as a large, shallow depression, with a diameter of *c.* 25m. The quarry pit was probably in use for a short period as it does not appear on historic maps of the area and pottery and other material recovered from its fills indicate that it was backfilled sometime after the mid 19th century, suggesting that it is relatively recent in date. The site of the quarry is shown as a cropmark on an aerial photograph of the site taken in 1946 (Fig. 17), so it had been backfilled by this time.

Field 3

4.8 Possibly the earliest remains were encountered in the southern part of the field where two sherds of Roman pottery were recovered from a ditch that may have formed part of a rectilinear enclosure on the crest of the hill. The ditches (2203 and 2503), which correspond with linear anomalies shown on the geophysical survey results (ArchaeoPhysica 2014), do not appear to conform with the general alignment of other features in the surrounding landscape (e.g. field boundaries, roads, footpaths), suggesting that they may be Roman in date. A soil sample was taken from one of the ditches, but this was entirely sterile and contained no evidence to determine its purpose.

4.9 A former post-medieval/modern field boundary, shown on the Tithe map of 1841 (Fig. 18) and subsequent Ordnance Survey maps, was investigated in Trench 23. The ditch (2303) corresponds with the linear anomaly shown on the geophysical

survey results in the western part of the field. An adjacent ditch (2305) on a more southerly alignment was not detected by the geophysical survey.

4.10 A series of evenly spaced, parallel ditches were recorded in Trenches 21, 22 and 24. They ran parallel with the hedgerow on the eastern side of the field and the former field boundary to the west, suggesting that they are relatively recent agricultural trenches.

5. CA PROJECT TEAM

5.1 The fieldwork was undertaken by Ralph Brown, assisted by Edwin Pearson, Jon Whitmore and Jonathan Madge. The report was written by Ralph Brown, with contributions from Jacky Somerville, Andy Clarke and Sarah Cobain, and the illustrations were prepared by Dan Bashford. The archive has been compiled by Ralph Brown and prepared for deposition by Emily Evans. The project was managed for CA by Simon Carlyle.

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APPENDIX A: WRITTEN SCHEME OF INVESTIGATION

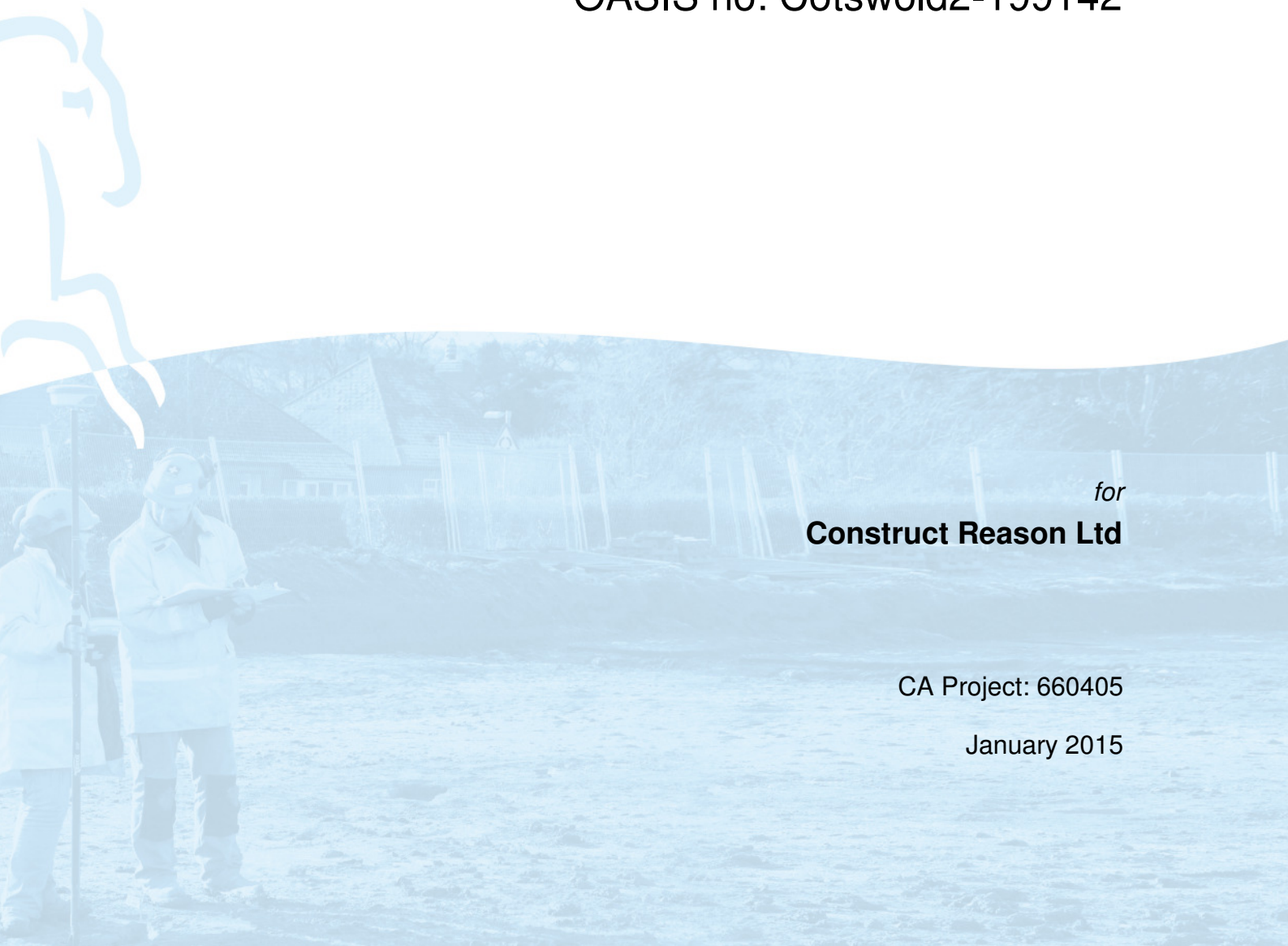
Cotswold Archaeology

Land off Farrier's Road and Poplar Hill Stowmarket Suffolk

Written Scheme of Investigation for an Archaeological Evaluation

HER Event no: COM 041

OASIS no: Cotswold2-199142



for

Construct Reason Ltd

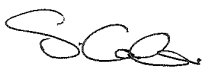
CA Project: 660405

January 2015

Land off Farrier's Road and Poplar Hill Stowmarket Suffolk

Written Scheme of Investigation for an Archaeological Evaluation

CA Project: 660405

prepared by	Simon Carlyle, Principal Fieldwork Manager
date	6 January 2015
approved by	Simon Carlyle, Principal Fieldwork Manager
signed	
date	7 January 2015
issue	01

Cirencester
Building 11
Kemble Enterprise Park
Kemble, Cirencester
Gloucestershire, GL7 6BQ
t. 01285 771022

Milton Keynes
41 Burners Lane South
Kiln Farm
Milton Keynes
MK111 3HA
t. 01908 564660
e. enquiries@cotswoldarchaeology.co.uk

Andover
Stanley House
Walworth Road
Andover, Hampshire
SP10 5LH
t. 01264 347630

CONTENTS

1. INTRODUCTION

1.1 This document sets out a *Written Scheme of Investigation* (WSI), prepared by Cotswold Archaeology (CA), for an archaeological evaluation of land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk (site centred on NGR: TM 0426 5715; Fig.1). The work, which has been commissioned by Construct Reason Ltd, forms part of a programme of archaeological works being carried out prior to the residential development of the site.

1.2 The scope of the evaluation was agreed with Matthew Brudenell, Senior Archaeological Officer with Suffolk County Council's Archaeological Service (SCCAS), at a site meeting on 5 December 2014. The on-site discussions were informed by a desk-based assessment of the site prepared by CA (2014) and a geophysical survey of the southern part of the site undertaken by ArchaeoPhysica (2014).

1.3 This WSI has been prepared in accordance with *Requirements for a Trenched Archaeological Evaluation* (SCC 2011) and *Standards for Field Archaeology in the East of England* (EEA 2003). The project will abide by the Institute for Archaeologists' *Standard and Guidance for Archaeological Evaluation* (IfA 2008), the English Heritage procedural documents *Management of Archaeological Projects 2* (EH1991) and *Management of Research Projects in the Historic Environment (MoRPHE): Project Manager's Guide* (EH 2006) and any other relevant standards or guidance contained within Appendix A.

The site

1.4 The site, which covers an area of *c.* 11 ha, comprises a block of land on the southern edge of Stowmarket, to the south-west of the suburb of Combs Ford, approximately 1.3km to the south of the town centre. The land straddles a spur of high ground that lies between two small streams that flow north-eastwards into Rattlesden River. On the north-facing slope the site comprises two fallow fields, partly overgrown with scrub and bordered by thick hedgerows; on the crest of the spur and on the south-east-facing slope it comprises parts of two large arable fields, separated by Poplar Hill, the road that runs between Combs Ford and the village of Combs. Ground level descends from *c.* 57m above Ordnance Datum (aOD) at the crest of the spur down to *c.* 42m at the stream that borders the northern edge of the

site and 49m aOD at its south-eastern corner. With the exception of the land to the south-east of Poplar Hill, which lies within the parish of Stowmarket, the site largely lies within the parish of Combs.

1.5 The solid geology of the site comprises Neogene/ Quaternary sandstone of the Crag Group (BGS 2015). This is overlain by superficial chalky till deposits of the Lowestoft Formation, with poorly-sorted sand and gravel Head deposits occurring adjacent to the small stream at the northern edge of the site.

Archaeological background

1.6 The historical and archaeological background of the site has been presented in detail in the *Archaeological Desk-based Assessment* prepared by CA (2014). In brief, this established that a Cold War Royal Observer Corps monitoring post, now demolished, was once located on the crest of the slope, near the site's south-western boundary. No other designated or undesignated heritage assets where located within the site. In the wider landscape, extensive scatters of prehistoric worked flint were recovered by fieldwalking on land *c.* 300m to the south-east of the site and medieval earthworks are recorded nearby at Combs Hall, and at Combs Ford, approximately 200m to the north-east.

1.7 The results of the geophysical survey of the southern part of the site, in the arable field to the north-west of Poplar Hill (ArchaeoPhysica 2014), showed no anomalies of archaeological significance within the surveyed area, other than a linear anomaly close to its southern edge. Other anomalies that were detected related to former field boundaries, modern services and the probable buried remains/debris of the Cold War monitoring station.

2. ARCHAEOLOGICAL OBJECTIVES

2.1 The objectives of the evaluation are to enable an assessment to be made of the site's archaeological potential, both in quality and extent. Specific aims are to:

- investigate the anomalies shown on the geophysical survey results and test the veracity of the survey through the excavation of trenches in apparently 'blank' areas;

- identify the date, approximate form and purpose of any archaeological deposits encountered, together with their likely extents, localised depths and quality of preservation;
- evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits;
- establish the potential for the survival of palaeoenvironmental evidence through a programme of environmental sampling.

2.2 The evaluation results will enable SCCAS, archaeological advisors to the Local Planning Authority, to identify and assess the particular significance of the site's heritage resource, consider the impact of the proposed development upon that significance, and develop plans to avoid or minimise conflict between heritage resource conservation and any aspect of the development proposal, in line with the *National Planning Policy Framework* (DCLG 2012).

3 METHODOLOGY

3.1 The evaluation will comprise the excavation of up to thirty-five 30m trenches (1050 linear metres) in the locations shown in Figure 2. Seven of these trenches will be located in the arable field in the southern part of the site. In the northern part of the site, which was not subject to geophysical survey, initially eighteen trenches will be excavated; in consultation with SCCAS, this will be increased up to twenty-eight trenches if further investigation of archaeological features is required.

3.2 Trenches will be set out on OS National Grid (NGR) co-ordinates using Leica GPS, and scanned for live services by trained CA staff using CAT and Genny equipment, in accordance with the *Safe System of Work for Avoiding Underground Services* (CA 2008). Where circumstances dictate that trench locations may need to be moved, this will only be undertaken in consultation and with the agreement of the client and SCCAS.

3.3 All trenches will be excavated, under archaeological supervision, by a mechanical excavator equipped with a 1.8m wide toothless ditching bucket. The trenches are likely to be *c.* 0.6m deep, although deeper alluvial/colluvial deposits may be encountered at the northern edge of the site, adjacent to the stream. The topsoil and subsoil will be removed to the top of archaeologically significant deposits or to the

top of the geological substrate, whichever is encountered first. Topsoil and subsoil will be stored separately, adjacent to each trench.

3.4 Following machining, all archaeological deposits and features will be hand-cleaned to define their extent, then planned and recorded in accordance with CA's *Technical Manual 1: Fieldwork Recording Manual* (CA 2007). Each context will be recorded on a *pro forma* context sheet by written and measured description. Principal deposits will be recorded on drawn plans (scale 1:20 or 1:50), or electronically using Leica 1200 series GPS (as appropriate). Sections will be drawn at 1:10 or 1:20 scale, as appropriate. Where detailed feature planning is undertaken using GPS, this will be carried out in accordance with *Technical Manual 4: Survey Manual* (CA 2009). Digital photographs (10 megapixel minimum) will be taken as appropriate. Any finds and samples will be bagged separately and related to the context record. Any artefacts encountered will be recovered and retained for processing and analysis, in accordance with *Technical Manual 3: Treatment of Finds Immediately after Excavation* (CA 2010).

3.5 Sample excavation of archaeological deposits will be sufficient to that necessary to characterise them and to achieve the objectives of the project. Discrete features will be half-sectioned and excavated sections through linear features will be at least 1m wide. Where appropriate, excavation will not compromise the integrity of the archaeological record, and will be undertaken in such a way as to allow for their subsequent protection or through the opportunity for better excavation under the conditions pertaining to investigation of a larger area.

3.6 Artefacts from unstratified contexts will normally be noted but not retained unless they are of intrinsic interest. All artefacts will be collected from stratified excavated contexts except for obviously modern material. Such material may be noted and not retained, or, if appropriate, a representative sample may be collected and retained. In the event that the evaluation identifies deposits associated with pottery or tile production or similar, a sampling strategy may be appropriate in view of the potentially significant volumes of material. Such a strategy would be discussed and agreed with the client and SCCAS on site prior to implementation.

3.7 In the event that human remains are encountered, these will not normally be excavated, but will be planned and recorded in detail. Human remains will only be excavated if they are likely to be damaged or desecrated, or if analysis of the

remains is shown to be a requirement of satisfactory evaluation of the site. If human remains are encountered, a licence will be obtained from the Coroners Unit at the Ministry of Justice, and will include notification to the local Environmental Health Officer.

3.8 Due care will be taken to identify deposits which may have environmental potential, and where appropriate, a programme of environmental sampling will be initiated. Samples, normally not less than 40 litres in volume (where obtainable), will be taken, processed and assessed for potential in accordance with *Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites* (CA 2003) and *Environmental Archaeology: a guide to the theory and practice of methods from sampling and recovery to post-excavation* (EH 2011). If appropriate, specialist advice will be sought from Sarah Cobain, CA's environmental archaeology specialist or Zoe Outram, EH Regional Archaeological Science Advisor (East of England).

3.9 Upon completion of the evaluation all trenches will be simply backfilled, with topsoil uppermost, and made level as far as practicable through the tracking of the excavator. Trenches will only be backfilled after inspection and approval by SCCAS.

3.10 CA will comply fully with the provisions of the *Treasure Act* 1996 and the *Code of Practice* referred to therein. The spoil heaps and features will be scanned with a metal detector to maximise the recovery of archaeologically significant metal objects.

4. STAFF AND TIMETABLE

4.1 The project will be under the management of Simon Carlyle MIfA, Principal Fieldwork Manager, and on-site supervision will be undertaken by Ralph Brown, Project Supervisor. The Project Supervisor will be assisted in the field by experienced Archaeologists drawn from CA's fieldwork team.

4.2 It is estimated that the fieldwork will take approximately ten days to complete. The fieldwork is due to commence on Monday 19 January 2015, subject to approval of this document by SCCAS.

4.3 Specialists who may be invited to advise and report on specific aspects of the project as necessary are:

Ed McSloy, ceramics, metalwork
Jacky Somerville, worked flint
Dr Sylvia Warman, animal and human bone
Sarah Cobain, environmental remains

4.4 Depending upon the nature of the deposits and artefacts encountered it may be necessary to consult other specialists not listed here. A full list of specialists currently used by CA is contained within Appendix B.

5. POST-EXCAVATION, ARCHIVING AND REPORTING

5.1 Following completion of fieldwork, all artefacts and environmental samples will be processed, assessed, conserved and packaged in accordance with CA Technical Manuals and the Suffolk County Archaeological Stores guidelines.

5.2 An illustrated report will be compiled on the results of the fieldwork. The report will include: a non-technical summary; an introduction to the project; an archaeological and historical background; an objective text account of the archaeological results, supported by tabulated data that enables appropriate re-assessment of the results by other parties without recourse to the project archive; a quantification and assessment of the finds and environmental materials; and an interpretative conclusion regarding the archaeological content of the site. The report will include appropriate illustrations of the site, its context and individual trenches, features and contexts where appropriate. A copy of this WSI will be included as an appendix to the evaluation report.

5.3 The Suffolk HER event number for this project is COM 041. This number will be clearly marked on the evaluation report and all documentation relating to the project.

5.4 Reference will be made to the Suffolk Historic Environment Record (HER) and the results of this search will be incorporated into the report in order to put the evaluation results into their historic environment context.

5.5 An unbound hard copy and a digital version of the draft report (either in .pdf or .doc format) will be submitted to SCCAS for approval. Following comment from SCCAS, the report will be finalised and a digital copy will be distributed to the client for submission to the Local Planning Authority. A digital copy and a single hard copy of the report will be forwarded to SCCAS for incorporation into the Suffolk HER.

5.6 If significant archaeological remains are encountered, a short summary report will be sent to SCCAS, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute of Archaeology and History*.

5.7 A summary of information from the project will be entered onto the OASIS online database of archaeological projects in Britain, along with a .pdf of the final report, under reference number 'Cotswold2-199142'. An OASIS summary sheet will be included as an appendix to the final evaluation report.

5.8 Should no further work be required, then an ordered, indexed, and internally consistent site archive will be prepared and deposited in accordance with *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation* (Archaeological Archives Forum 2007) and the guidelines of the Suffolk County Archaeological Stores.

5.9 CA will make arrangements with the Suffolk County Archaeological Stores for the deposition of the site archive and, subject to agreement with the legal landowner(s), the artefact collection.

6. HEALTH AND SAFETY

6.1 CA will conduct all works in accordance with the *Health and Safety at Work Act 1974* and all subsequent Health and Safety legislation. All works will also comply with CA's *Health, Safety & Welfare Policy* (CA 2013) and *Safety, Health and Environmental Management System* (SHEMS). A site-specific Project Health and Safety Plan and Risk Assessment will be prepared prior to the commencement of fieldwork.

7. INSURANCES

7.1 CA holds Public Liability Insurance to a limit of £10,000,000 and Professional Indemnity Insurance to a limit of £5,000,000. No claims have been made or are pending against these policies in the last three years.

8. MONITORING

8.1 Notification of the start of site works will be made to Matthew Brudenell, SCCAS so that there will be opportunities to visit the evaluation and check on the quality and progress of the work.

9. QUALITY ASSURANCE

9.1 CA is a Registered Organisation (RO) with the Chartered Institute for Archaeologists (RO Ref. No. 8). As a RO, CA endorses the *Code of Conduct* (IfA 2010) and the *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (IfA 2008). All CA Project Managers and Project Officers hold either full Member or Associate status within the IfA.

9.2 CA operates an internal quality assurance system in the following manner. Projects are overseen by a Project Manager who is responsible for the quality of the project. The Project Manager reports to the Chief Executive who bears ultimate responsibility for the conduct of all CA operations. Matters of policy and corporate strategy are determined by the Board of Directors, and in cases of dispute recourse may be made to the Chairman of the Board.

10. REFERENCES

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

EEA (East Anglian Archaeology) 2003 *Standards for Field Archaeology in the East of England* East Anglian Archaeology Occasional Papers **14**

SCC (Suffolk County Council) 2011 *Requirements for a Trenched Archaeological Evaluation*

APPENDIX A: ARCHAEOLOGICAL STANDARDS AND GUIDELINES

AAF 2007 *Archaeological Archives. A guide to best practice in creation, compilation, transfer and curation*. Archaeological Archives Forum

AAI&S 1988 *The Illustration of Lithic Artifacts: A guide to drawing stone tools for specialist reports.* Association of Archaeological Illustrators and Surveyors Paper **9**

AAI&S 1994 *The Illustration of Wooden Artifacts: An Introduction and Guide to the Depiction of Wooden Objects.* Association of Archaeological Illustrators and Surveyors Paper **11**

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EA 2005 *Guidance on Assessing the Risk Posed by Land Contamination and its Remediation on Archaeological Resource Management*. English Heritage/ Environment Agency Science Report P5-077/SR (Bristol)

EH 1991 *The Management of Archaeological Projects*. Second Edition (MAP2) English Heritage (London)

EH 1995a, *Archaeometallurgy in Archaeological Projects*. English Heritage Scientific and Technical Guidelines No 2

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APPENDIX B: COTSWOLD ARCHAEOLOGY SPECIALISTS

Ceramics

Neolithic/Bronze Age	Ed McSloy (CA) Dr Elaine Morris (University of Southampton) Ros Cleal (freelance)
Iron Age/Roman (Samian) (Amphorae stamps)	Ed McSloy (CA) Peter Webster (freelance) David Williams (freelance)
Anglo-Saxon	Paul Blinkhorn (freelance) Jane Timby (freelance)
Medieval/post-medieval (Clay pipe)	Ed McSloy (CA) Duncan Brown (freelance) Reg Jackson (freelance)
Ceramic Building Material	Ed McSloy (CA) Phil Mills (freelance) Sandra Garside-Neville (freelance)

Other Finds

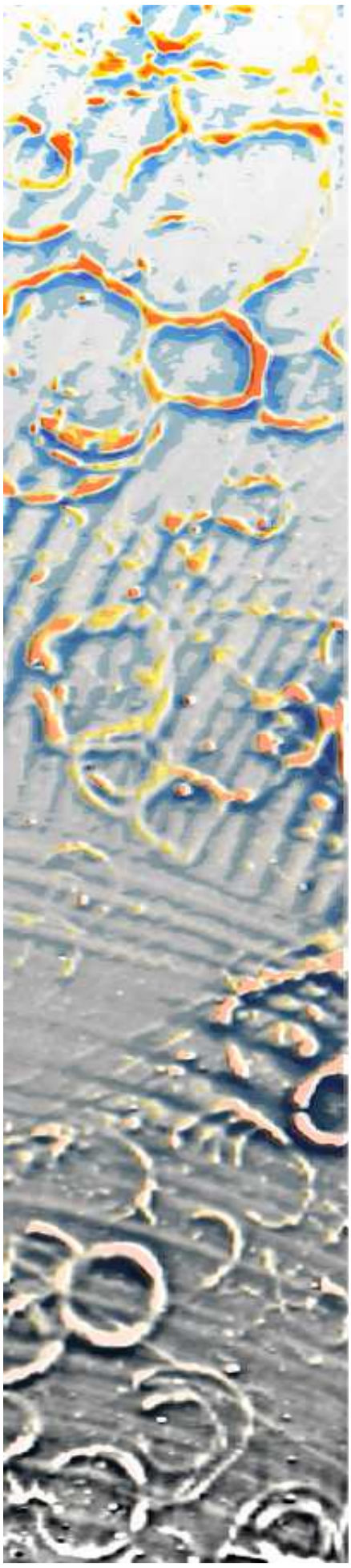
Small Finds	Ed McSloy (CA)
Lithics (Palaeolithic)	Ed McSloy (CA) Phil Harding, Wessex Archaeology
Worked Stone	Fiona Roe (freelance)
Inscriptions	Roger Tomlin (Oxford)
Glass	Ed McSloy (CA) Hilary Cool (freelance) David Dungworth (English Heritage)
Coins	Ed McSloy (CA) Dr Peter Guest (Cardiff University) Richard Reece (freelance)
Leather	Quita Mould (freelance)
Textiles	Penelope Walton Rogers (freelance)
Iron slag/metal technology	Dr Tim Young (Cardiff University) Dr David Dungworth (English Heritage)

Biological Remains

Animal bone	Andy Clarke (CA)
Human Bone (Cremations)	Sharon Clough (freelance) Jackie McKinley (Wessex Archaeology)
Environmental sampling	Sarah Cobain (CA) Dr Keith Wilkinson (ARCA)
Pollen	Nick Daffern (WHEAS)
Diatoms	Nigel Cameron (UCL)
Charred Plant Remains	Wendy Carruthers (freelance) Liz Pearson (WHEAS)

Wood/Charcoal	Dana Challinor (freelance)
Insects	David Smith (Birmingham University) QUEST (Reading University)
Mollusca	Dr Keith Wilkinson (ARCA)
Fish bones	Hannah Russ (freelance) Philip Armitage
Geoarchaeology	Dr Keith Wilkinson (ARCA)
Scientific Dating	
Dendrochronology	Cathy Groves (ARCUS) Robert Howard (NTRDL Nottingham)
Radiocarbon dating	University of Waikato (New Zealand) Beta Analytic (USA) Rafter (New Zealand)
Archaeomagnetic dating	Don Tarling (Plymouth)
TL/OSL Dating	Phil Toms (University of Gloucestershire)
Conservation	Wiltshire Conservation Services

APPENDIX B: GEOPHYSICAL SURVEY



Poplar Hill, Stowmarket, Suffolk

Geophysical Survey Report

Produced for Cotswold Archaeology

Project code POS141
OASIS archaeop1-186209
HER Site COM 041 HER Event ESF22415

10th November 2014

R Fry, Geophysicist BA(Hons) MSc
MJ Roseveare, Senior Geophysicist
BSc(Hons) MSc MEAGE FGS MIfA

ArchaeoPhysica Ltd
Kitchener's, Home Farm, Harewood End, Hereford HR2 8JS
Tel. +44 (0) 1989 730 564 www.archaeophysica.com

Non-Technical Summary

A magnetic survey was commissioned by Cotswold Archaeology to prospect land at Poplar Hill, Stowmarket, Suffolk for buried structures of archaeological interest.

The magnetic survey has identified few anomalies of potential archaeological interest. The known location of the Cold War ROC post has been identified within the dataset, suggesting that structural aspects of this may remain *in-situ*. Some weakly enhanced magnetic field linear anomalies may represent a former field system.

Digital Data

Item	Sent to	Sent date
CAD – Vector Elements	Nathan Blick & Meg Tudor	11th November 2014

Audit

Version	Author	Checked	Date
Interim	R Fry		30th October 2014
Draft Final	R Fry	MJ Roseveare	10th November 2014
Final	R Fry		13th November 2014
Revision	-	-	-
OASIS		MJ Roseveare	19th November 2014

Table of Contents

1 Introduction

Land at Poplar Hill, Stowmarket, Suffolk was surveyed to prospect for buried structures of archaeological interest. 4.2ha of land was surveyed across a single stubble field.

1.1 Location

Country	England
County	Suffolk
Nearest Settlement	Stowmarket
Central Co-ordinates	604290,257170

1.2 Constraints & variations

Two fields originally proposed for survey were deemed unsurveyable. Large areas across these fields were left as dumps of material (usually over head height, containing dead trees etc.), whilst areas left as grass were generally overgrown, containing sharp points from cut tree trunks. A small area within the surveyed field was not surveyed due to an on site equipment failure – the gap left (approximately 10m x 10m in area) is likely to contain the continuation of a linear enhanced magnetic field anomaly which extends through on either side, and not likely to have affected the interpretation of the dataset.

2 Context

2.1 Archaeology

Prior to the geophysical survey of the site, a Brief for Geophysical Survey was provided by Suffolk County Council (Brudenell 2014). The following has been quoted from the brief:

"Although the only previously recorded heritage asset on the site is a now demolished Cold War ROC post (HER no. COM 039), the area has not been subject to systematic archaeological investigation. However, the scale of the proposed development is such that there is a high potential for the discovery of important below ground features and deposits across this location." (Brudenell, 2014, 2)

A Desk Based Assessment (DBA) for the site, written by Cotswold Archaeology (2014) concluded:

"*...potential archaeological heritage assets within the proposed development site are considered to be of limited heritage significance."* (Cotswold Archaeology, 2014, 20)

The boundaries over the surveyed area appear to be unchanged since the OS mapping of 1885, however an extra field boundary was depicted within a Tithe Map from 1841.

2.2 Environment

Superficial 1: 50000 BGS	Lowestoft Formation - Diamicton (LOFT)
Bedrock 1:50000 BGS	Crag Group - Sand (CRAG)
Topography	S edge of area lies on broad ridge, slopes down to N steadily
Hydrology	Presumed relatively free-draining, likely partly artificially for agriculture, may be wetter along N flank
Current Land Use	Mixed agricultural
Historic Land Use	Mixed agricultural
Vegetation Cover	Beet in S field, cleared weedy vegetation in N two fields
Sources of Interference	None known, potential ferrous effects from residential area adj. E side

The magnetic character of the site will be almost entirely dependent upon the cover of the Lowestoft

Formation (LOFT) unless particularly thin. The LOFT itself tends not to support much natural magnetic susceptibility enhancement, e.g. through cultivation, and therefore features cut into this may not present strong anomalies.

3 Methodology

3.1 Survey

3.1.1 Technical equipment

Measured variable	Magnetic flux density / nT
Instrument	Array of Geometrics G858 Magmapper caesium magnetometers
Configuration	Non-gradiometric transverse array (6 sensors, ATV towed)
Sensitivity	0.03 nT @ 10 Hz (manufacturer's specification)
QA Procedure	Continuous observation
Spatial resolution	1.0m between lines, 0.3m mean along line interval

3.1.2 Monitoring & quality assessment

The system continuously displays all incoming data as well as line speed and spatial data resolution per acquisition channel during survey. Rest mode system noise is therefore easy to inspect simply by pausing during survey, and the continuous display makes monitoring for quality intrinsic to the process of undertaking a survey. Rest mode test results (static test) are available from the system.

3.2 Data processing

3.2.1 Procedure

All data processing is minimised and limited to what is essential for the class of data being collected, e.g. reduction of orientation effects, suppression of single point defects (drop-outs or spikes) etc. The processing stream for this data is as follows:

Process	**Software**	**Parameters**
Measurement & GNSS receiver data alignment	Proprietary	
Temporal reduction, regional field suppression	Proprietary	High pass 3s/nT, Low pass 0.3s/nT
Gridding	Surfer	Kriging, 0.25m x 0.25m
Smoothing	Surfer	Gaussian lowpass 3x3 data
Imaging and presentation	Manifold GIS	

The initial processing uses proprietary software developed in conjunction with the multisensor acquisition system. Gridded data is ported as data surfaces (not images) into Manifold GIS for final imaging and detailed analysis. Specialist analysis is undertaken using proprietary software.

General information on processes commonly applied to data can be found in standard text books and also in the 2008 English Heritage Guidelines "Geophysical Survey in Archaeological Field Evaluation" at http://www.helm.org.uk/upload/pdf/Geophysical_LoRes.pdf.

ArchaeoPhysica uses more advanced processing for magnetic data using potential field techniques standard to near-surface geophysics. Details of these can be found in Blakely, 1996, "Potential Theory in Gravity and Magnetic Applications", Cambridge University Press.

All archived data includes process metadata.

3.3 Interpretation resources

Numerous sources are used in the interpretive process which takes into account shallow geological conditions, past and present land use, drainage, weather before and during survey, topography and any previous knowledge about the site and the surrounding area. Old Ordnance Survey mapping is consulted and also older sources if available. Geological information is sourced only from British Geological Survey resources and aerial imagery from online sources. Topographic data is usually sourced from the Environment Agency (LiDAR) unless derived from original ArchaeoPhysica survey.

Information from nearby ArchaeoPhysica surveys is consulted to inform upon local data character, variations across soils and near-surface geological contexts. Published data from other contractors may also be used if accompanied by adequate metadata.

3.4 Interpretive classes

3.4.1 Introduction

Key to interpretation is separation of each anomaly into broad classes, namely whether caused by agricultural processes (e.g. ploughing, composting, drainage etc.), geological factors or whether a structure of archaeological interest is likely. Within these anomalies are in turn classified by whether they most likely represent a fill or a drain, or a region of differing data texture, etc. More detailed descriptions are included below.

The actual means of classification is based upon geophysical understanding of anomaly formation, the behaviour of soils, landscape context and structural form. For example, to consider just one form of anomaly: weakly dipolar discrete magnetic anomalies of small size are likely to have shallow non-ferrous sources and are therefore likely to be pits. Larger ones of the same class could also be pits or locally-deeper topsoil but if strongly magnetic could also be hearths. Strongly dipolar discrete anomalies are in all cases likely to be ferrous or similarly magnetic debris, although small repeatedly heated and in-situ hearths can produce similar anomalies.

3.4.2 Agriculture – boundaries

Coherent linear dipolar enhancement of magnetic field strength marking ditch fills, narrow bands of more variable magnetic field or changes in apparent magnetic susceptibility, are all included within this category if they correlate with boundaries depicted on the Tithe Map or early Ordnance Survey maps. If there is no correlation then these anomaly types are not categorised as a field boundaries.

3.4.3 Agriculture – cultivation

Banded variations in apparent magnetic susceptibility caused by a variable thickness of topsoil, depositional remanent magnetisation of sediments in furrows or susceptibility enhancement through heating (a by product of burning organic matter like seaweed) tend to indicate past cultivation, whether ridge-based techniques, medieval ridge and furrow or post medieval 'lazy beds'. Modern cultivation, e.g. recent ploughing, is not included.

3.4.4 Agriculture – drains

In some cases it is possible to identify drainage networks either as ditch-fill type anomalies (typically 'Roman' drains), noisy or repeating dipolar anomalies from terracotta pipes or reduced magnetic field strength anomalies from culverts, plastic or non-reinforced concrete pipes. In all cases identification of a herring bone pattern to these is sufficient for inclusion within this category.

3.4.5 Archaeology – fills

Any linear or discrete enhancement of magnetic field strength, usually with a dipolar character of variable strength, that cannot be categorised as a field boundary, cultivation or as having a geological origin, is classified as a fill potentially being of archaeological interest. Fills are normally earthen and include an often invisible proportion of heated soil or topsoil that augments local magnetic field strength. Inverted anomalies are possible over non-earthen fills, e.g. those that comprise peat, sand or gravel within soil. This category is subject to the 'habitation effect' where, in the absence of other sources of magnetic material, anomaly strength will decrease away from sources of heated soil and sometimes to the extent of non-detectability.

Former enclosure ditches that contained standing water can promote enhanced volumetric magnetic susceptibility through depositional remanence and remain detectable regardless of the presence of other sources of magnetic material.

3.4.6 Archaeology – other discrete

This category is secondary to fills and includes anomalies that by virtue of their character are likely to be of archaeological interest but cannot be adequately described as fills. Examples include strongly magnetic bodies lacking ferrous character that might indicate hearths or kilns. In some cases anomalies of ferrous character may be included.

3.4.7 Archaeology – structures

On some sites the combination of plan form and anomaly character, e.g. rectilinear reduced magnetic field strength anomalies, might indicate the likely presence of masonry, robber trenches or rubble foundations. Other types of structure are only included if the evidence is unequivocal, e.g. small ring ditches with doorways and hearths. In some circumstances a less definite category may be assigned to the individual anomalies instead.

3.4.8 Archaeology – zones

On some sites it is possible to define different areas of activity on the basis of magnetic character, e.g. texture and anomaly strength. These might indicate the presence of middens or foci within larger complexes. This category does not indicate a presence or absence of anomalies possibly of archaeological interest.

3.4.9 Geology – discrete

On some sites, e.g. some gravels and alluvial contexts, there will be anomalies that can obscure those potentially of archaeological interest. They may have a strength equal to or greater than that associated with more relevant sources, e.g. ditch fills, but can normally be differentiated on the basis of anomaly form coupled with geological understanding. Where there is ambiguity, or relevance to the study, these anomalies will be included in this category.

3.4.10 Geology – zones

Not all changes in geology can be detected at the surface, directly or indirectly, but sometimes there will be a difference evident in the geological data that can be attributed to a change, e.g. from alluvium to tidal flat deposits, or bedrock to alluvium. It some cases the geophysical difference will not exactly coincide with the geological contact and this is especially the case across transitions in soil type.

3.4.11 Services

All overheard (OH) and underground (UG) services are depicted where these are detectable in the data or may influence aspects of the interpretation.

3.4.12 Texture

Geophysical data varies in character across areas, due to a range of factors including soil chemistry, near surface geology, hydrology and land use past and present. Where these variations are of interest or relevance to the study they are included in this category.

3.5 Standards & guidance

All work was conducted in accordance with the following standards and guidance:

- David et al, "Geophysical Survey in Archaeological Field Evaluation", English Heritage, 2008.
- "Standard and Guidance for Archaeological Field Evaluation", Institute for Archaeologists, 2008.

In addition, all work is undertaken in accordance with the high professional standards and technical competence expected by the Geological Society of London and the European Association of Geoscientists and Engineers.

All personnel are experienced surveyors trained to use the equipment in accordance with the manufacturer's expectations. All aspects of the work are monitored and directed by fully qualified professional geophysicists.

4 Discussion

4.1 Introduction

The sections below first discuss the geophysical context within which the results need to be considered and then specific features or anomalies of particular interest. Not all will be discussed here and the reader is advised to consult the graphical elements of this report.

4.2 Principles

In general, topsoil is more magnetic than subsoil which can be slightly more magnetic than parent geology, whether sands, gravels or clays, however, there are exceptions to this. The reasons for this are natural and are due to biological processes in the topsoil that change iron between various oxidation states, each differently magnetic. Where there is an accumulation of topsoil or where topsoil has been incorporated into other features, a greater magnetic susceptibility will result.

Within landscapes soil tends to accumulate in negative features like pits and ditches and will include soil particles with thermo-remanent magnetization (TRM) through exposure to heat if there is settlement or industry nearby. In addition, particles slowly settling out of stationary water will attempt to align with the ambient magnetic field at the time, creating a deposit with depositional remanent magnetization (DRM).

As a consequence, magnetic survey is nearly always more a case of mapping accumulated magnetic soils than structures which would not be detected unless magnetic in their own right, e.g. built of brick or tile. As a prospecting tool it is thus indirect. Fortunately, the mechanisms outlined above are commonplace and favoured by human activity and it is nearly always the case that cut features will alter in some way the local magnetic field.

4.2.1 Instrumentation

The use of the magnetic sensors in non-gradiometric (vertical) configuration avoids m easurement sensitisation to the shallowest region of the soil, allowing deeper structures, whether natural or otherwise to be imaged within the sensitivity of the instrumentation. However, this does remove suppression of ambient noise and temporal trends which have to be suppressed later during processing. When compared to vertical gradiometers in archaeological use, there is no significant reduction in lateral resolution when using non-gradiometric sensor arrays and the inability of gradiometers to detect laminar structures is completely avoided.

Caesium instrumentation has a greater sensitivity than fluxgate instruments, however, at the 10 Hz sampling rate used here this increase in sensitivity is limited to about one order of magnitude.

The array system is designed to be non-magnetic and to contribute virtually nothing to the magnetic measurement, whether through direct interference or through motion noise. There is, however, some limited contribution from the towing ATV.

4.3 Character & principal results

4.3.1 Geology

The magnetic susceptibility contrast of the site is weak, with anomalies generally within a 2nT range, however it has been sufficient for the detection of anomalies of archaeological interest. The background data texture is relatively uniform throughout, with any slight variation due to magnetic disturbance caused by overhead cables (OHC) [1] and the position of the Cold War ROC post [2].

4.3.2 Land use

There are a few signs of past land sue over the surveyed area. An area of disturbance is caused by the OHC [1] extending east - west through the survey area. Strongly enhanced magnetic anomalies along this line mark the location of telegraph poles.

A strongly enhanced magnetic field anomaly within the south of the site [2] is thought to relate to the Cold War ROC post (HER no. COM 039), which appears on the OS mapping of the area in 1968-69.

A strongly enhanced magnetic field linear anomaly [3] is a current footpath and field boundary separating two fields.

An enhanced linear magnetic field anomaly [4] appears to extend at a North-west – South-east alignment, and perpendicular to extant boundary [3]. This anomaly represents a past field boundary, depicted on the 1841 Tithe Map of the site (in: Cotswold Archaeology 2014), and pre-dates the 1885 OS mapping of the area.

4.3.3 Archaeology

Weakly enhanced linear anomalies [5], [6] & [7] may be of archaeological interest, and are likely to represent field boundary ditches from a former field system.

4.4 Conclusions

The magnetic survey has identified few anomalies of potential archaeological interest. The known location of the Cold War ROC post has been identified within the dataset, suggesting that structural aspects of this may remain *in-situ*. Some weakly enhanced magnetic field linear anomalies may represent a former field system.

4.5 Caveats

Geophysical survey is a systematic measurement of some physical property related to the earth. There are numerous sources of disturbance of this property, some due to archaeological features, some due to the measuring method, and others that relate to the environment in which the measurement is made. No disturbance, or 'anomaly', is capable of providing an unambiguous and comprehensive description of a feature, in particular in archaeological contexts where there are a myriad of factors involved.

The measured anomaly is generated by the presence or absence of certain materials within a feature, not by the feature itself. Not all archaeological features produce disturbances that can be detected by a particular instrument or methodology. For this reason, the absence of an anomaly must never be taken to mean the absence of an archaeological feature. The best surveys are those which use a variety of techniques over the same ground at resolutions adequate for the detection of a range of different features.

Where the specification is by a third party ArchaeoPhysica will always endeavour to produce the best possible result within any imposed constraints and any perceived failure of the specification remains the responsibility of that third party.

Where third party sources are used in interpretation or analysis ArchaeoPhysica will endeavour to verify their accuracy within reasonable limits but responsibility for any errors or omissions remains with the originator.

Any recommendations are made based upon the skills and experience of staff at ArchaeoPhysica and the information available to them at the time. ArchaeoPhysica is not responsible for the manner in which these may or may not be carried out, nor for any matters arising from the same.

4.6 Bibliography & selected reference

Aspinall *et al*, 2008. "Magnetometry for Archaeologists", Geophysical Methods for Archaeology, Altamira Press

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5 Appendices

5.1 Project metadata

Project Name	Poplar Hill, Stowmarket, Suffolk
Project Code	POS141
Client	Cotswold Archaeology
Fieldwork Dates	22nd October 2014
Field Personnel	R Fry, D Rouse
Data Processing Personnel	R Fry
Reporting Personnel	R Fry
Draft Report Date	10th November 2014
Final Report Date	13th November 2014

5.2 Archiving

ArchaeoPhysica maintains an archive for all its projects, access to which is permitted for research purposes. Copyright and intellectual property rights are retained by ArchaeoPhysica on all material it has produced, the client having full licence to use such material as benefits their project. Access is by appointment only and some content is restricted and not available to third parties

Archive formation is in the spirit of Schmidt, A., 2013, "Geophysical Data in Archaeology: A Guide to Good Practice", ADS.

ArchaeoPhysica has a policy of contributing in time to the ADS Grey Literature library, usually after about six months post-dating release of the report. In addition, extracts of data images may be used, without reference to their source, in marketing and similar material. In these cases anything that might identify the project or client is removed.

5.3 ArchaeoPhysica

5.3.1 The company

ArchaeoPhysica has provided geophysical survey to archaeologists since 1998 and is consequently one of the oldest specialist companies in the sector. It has become one of the most capable operations in the UK, undertaking 1000 hectares of magnetic survey per annum. In addition 2D & 3D electrical, low frequency electromagnetic and radar surveys are regularly undertaken across the UK, also overseas. ArchaeoPhysica is the most established provider of caesium vapour magnetic survey in Europe, and holds probably the largest archaeological archive of total field magnetic data in the world. Unusually for the archaeological sector, key staff are acknowledged qualified geophysical specialists in their own right and regularly contribute to in-house and other research projects. For a number of years the company taught applied geophysics to Birkbeck College (London) undergraduate and post-graduate archaeology students, and developed a new and comprehensive course for the College.

All work is undertaken by qualified and experienced geophysicists who have specialised in the detection and mapping of near surface structures in archaeology and other disciplines using a wide variety of techniques. There is always a geophysicist qualified to post-graduate level on site during fieldwork and all processing and interpretation is undertaken under the direct influence of either the same individual or someone of similar qualifications and experience.

ArchaeoPhysica meets with ease the requirements of English Heritage in their 2008 Guidance "Geophysical Survey in Archaeological Field Evaluation" section 2.8 entitled "Competence of survey personnel". The company is one of the most experienced in European archaeological prospection and is a key professional player. It only employs people with recognised geoscience qualifications and capable of becoming Fellows of

the Geological Society of London, the Chartered UK body for geophysicists and geologists.

5.3.2 Senior Geophysicist: Martin J Roseveare, MSc BSc(Hons) MEAGE FGS MIfA

Martin specialised (MSc) in geophysical prospection for shallow applications at the University of Bradford in 1997 and has worked in commercial geophysics since then. He was elected a Fellow of the Geological Society of London in 2009 and is also a full member of the Institute of Archaeologists. He has taught applied geophysics for Birkbeck College's archaeological degree students for a number of years. Professional interests outside archaeology include the application of geophysics to agriculture, also geohazard monitoring and prediction. He also has considerable practical experience of the improvement and integration of geophysical hardware and software. At ArchaeoPhysica Martin carries overall responsibility for all things geophysical and is often found writing reports or buried in obscure software and circuit diagrams. He was elected onto the EuroGPR and IfA GeoSIG committees in Autumn 2013.

5.3.3 Operations Manager: Anne CK Roseveare, BEng(Hons) DIS

On looking beyond engineering, Anne turned her attention to environmental monitoring and geophysics and has since been applying specialist knowledge of chemistry & fluid flow to soils. She is member of the British Society of Soil Science and is interested in the use of agricultural applications of geophysics. Anne was the founding editor of the International Society for Archaeological Prospection (ISAP) and has spent many years walking fields in parallel lines. Much of her time now is spent managing complicated scheduling and logistics for ArchaeoPhysica, overseeing safety procedures and data handling, while dreaming of interesting places around the world to undertake surveys, including researching the urban archaeology of Asia.

5.3.4 Geophysicist: Robert Fry, MSc BA(Hons), PhD candidate

Rob studied Archaeology B.A.(Hons.) at the University of Reading from 2004-07 where his research was heavily influenced by geophysical techniques and work included organising and leading the magnetic survey of Silchester Roman Town. Following university, he joined the British School at Rome, conducting magnetic surveys in Spain, Italy and Libya. After working briefly as a geophysicist at Wessex Archaeology, Rob became Project Officer of The Silchester Mapping Project at the University of Reading. Since then, he has gained an MSc in Archaeological Prospection from the University of Bradford. He is now writing up his PhD thesis in time-lapse geophysical monitoring techniques and analysis as part of the DART Project. Rob is currently the editor of ISAP News. At ArchaeoPhysica Rob is normally found in the field or in the office besieged by colossal quantities of survey data.

5.3.5 Geophysicist: Samuel Purvis, MSc BSc(Hons)

Sam studied Archaeology at The University of Bradford before progressing to a Masters in Archaeological Prospection. His primary research focus is on electromagnetic methods of shallow survey and is an expert with the newest multicoil electromagnetic instrumentation. Sam's main role at ArchaeoPhysica is technical, collecting high quality data, maintaining systems and keeping the show on the road.

OASIS DATA COLLECTION FORM: England

OASIS ID: archaeop1-186209

Project details

Project name	Poplar Hill, Stowmarket, Suffolk
Short description of the project	ArchaeoPhysica have been commissioned to conduct a magnetic survey at land at Poplar Hill, Stowmarket, Suffolk.
Project dates	Start: 22-10-2014 End: 22-10-2014
Previous/future work	Not known / Not known
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	ROYAL OBSERVER CORPS MONITORING POST Modern
Significant Finds	N/A None
Methods & techniques	"""Geophysical Survey"""
Development type	Not recorded
Prompt	Planning condition
Position in the planning process	Not known / Not recorded
Solid geology (other)	Crag Group - Sand (CRAG)
Drift geology (other)	Lowestoft Formation - Diamicton (LOFT)
Techniques	Magnetometry

Project location

Country	England
Site location	SUFFOLK MID SUFFOLK COMBS Poplar Hill, Stowmarket, Suffolk
Study area	9.00 Hectares
Site coordinates	TM 0417 5722 52.174896301 0.986327342083 52 10 29 N 000 59 10 E Point
Lat/Long Datum	WGS 84 Datum

Entered by	Samuel Purvis (s.purvis@archaeophysica.com)
Entered on	28 November 2014

OASIS:

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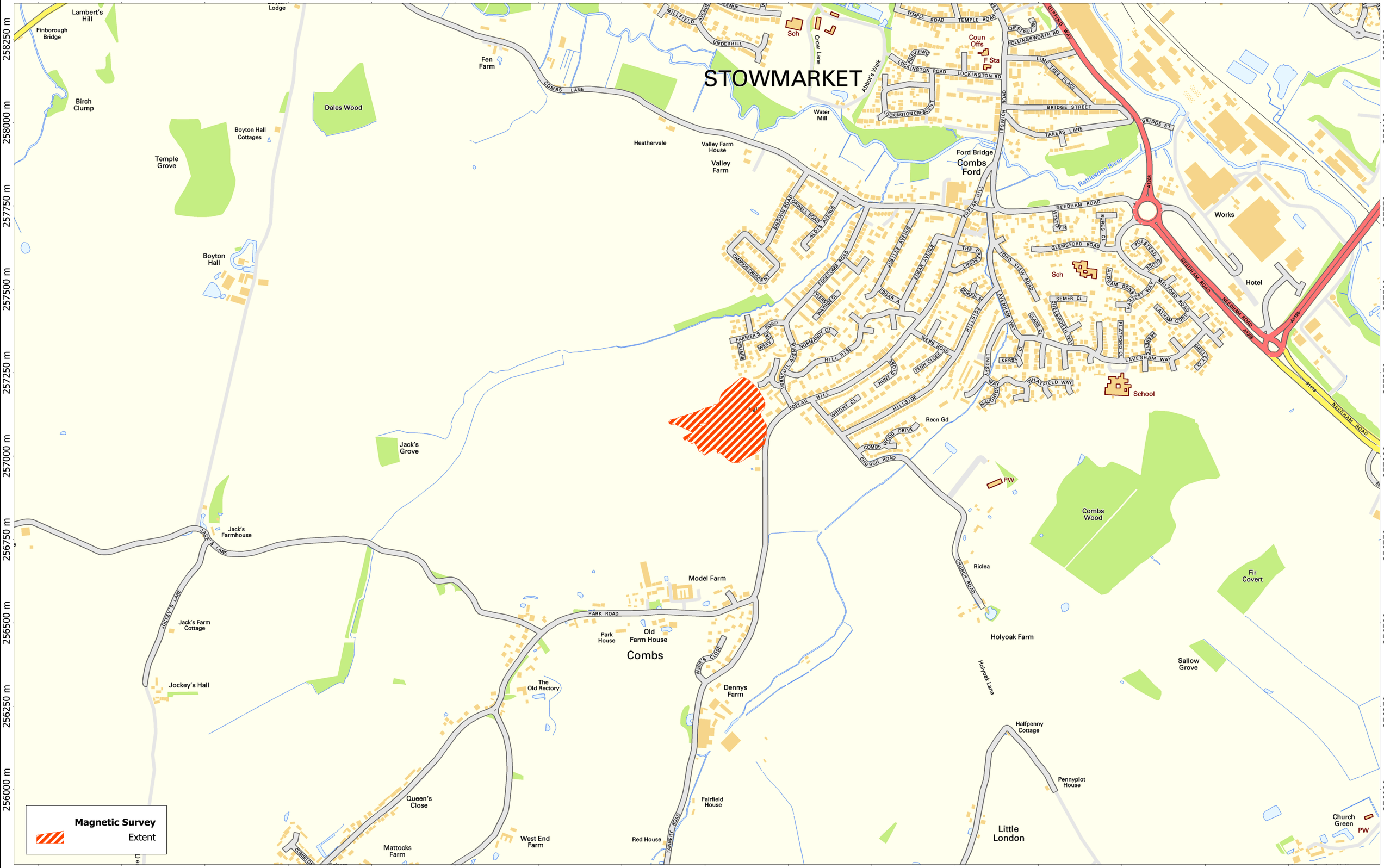

POS141 Poplar Hill, Stowmarket, Suffolk
DWG01 Location Map

ArchaeoPhysica Ltd

Orthographic Centre X: 604225.85 m Centre Y: 257066.47 m Scale: 1:10000 @ A3 Spatial Units: Meter. Do not scale off this drawing

POS141 Poplar Hill, Stowmarket, Suffolk
DWG02 Magnetic Data Plot

ArchaeoPhysica Ltd

Orthographic Centre X: 604286.69 m Centre Y: 257119.66 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing

604075 m 604100 m 604125 m 604150 m 604175 m 604200 m 604225 m 604250 m 604275 m 604300 m 604325 m 604350 m 604375 m 604400 m 604425 m 604450 m 604475 m 604500 m

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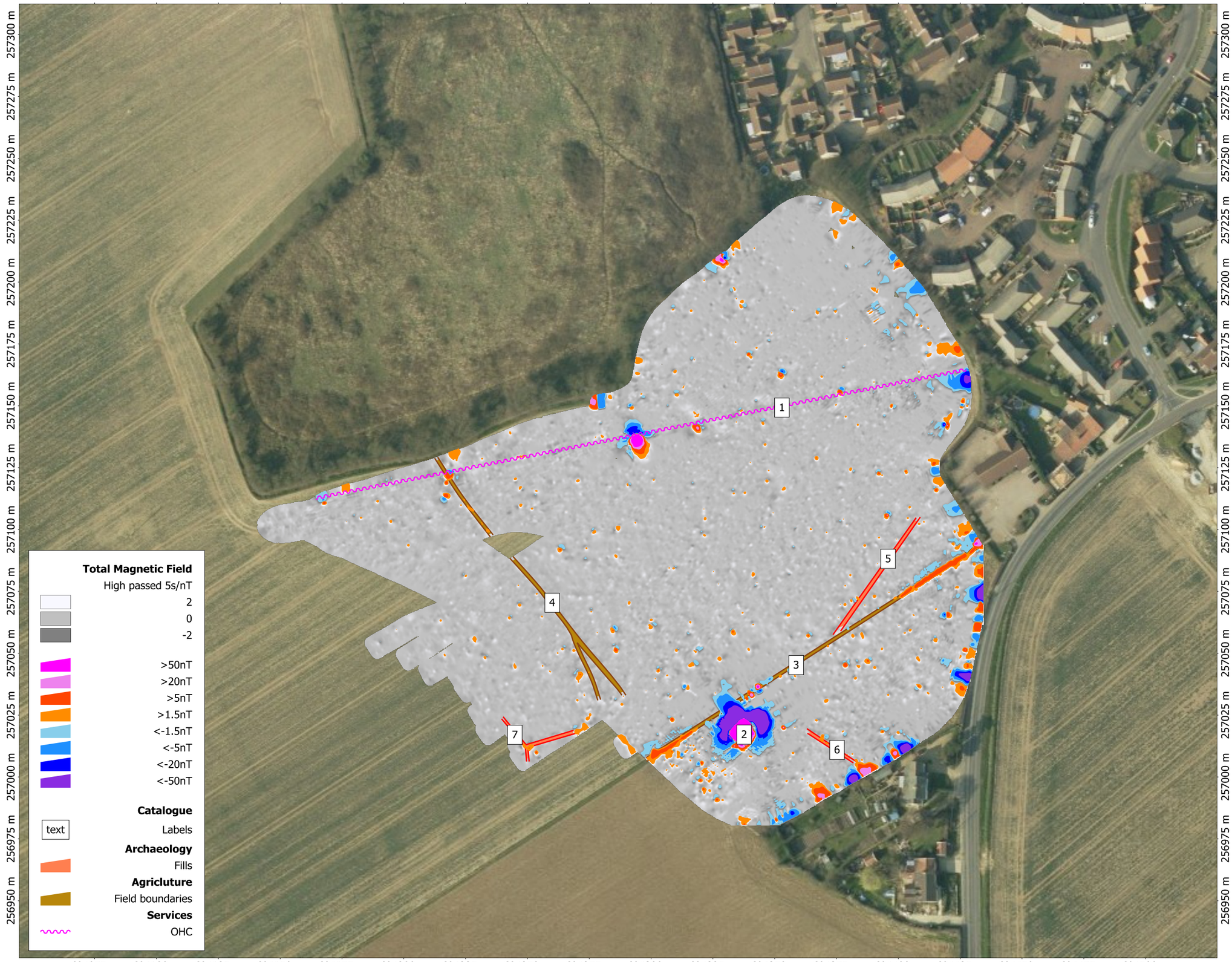


Total Magnetic Field
High passed 5s/nT
2
0
-2

>50nT
>20nT
>5nT
>1.5nT
<-1.5nT
<-5nT
<-20nT
<-50nT

Catalogue
text Labels
Archaeology
Fills
Agricluture
Field boundaries
Services
OHC

POS141 Poplar Hill, Stowmarket, Suffolk
DWG03 Interpretation Map

ArchaeoPhysica Ltd

Orthographic Centre X: 604286.69 m Centre Y: 257119.66 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing

APPENDIX C: CONTEXT DESCRIPTIONS

Context	Context Interpretation	Context Description	Length (m)	Width (m)	D/T (m)	Spot-date
Trench 1						
100	Topsoil	Soft, dark brownish-silty loam, 2% flint inc.	>30	>1.8	0.21	
101	Subsoil	Soft, mid yellowish-brown silty clay, 2% flint inc.	>30	>1.8	0.26	
102	Alluvium	Loose, light yellowish-white, silty sand, no inc.	5	>1.8	0.2	
103	Layer	Soft, dark brownish-grey humic silt, 2% flint inc.	>30	>1.8	0.15	
104	Made-ground	Loose, mid greyish-brown clay silt, frequent inclusions of rubble and plastic pipe	>7	>1.8	0.6	C20
105	Geology	Loose, light brownish-yellow silty sand, 70% stones	>30	>1.8	0.14	
Trench 2						
200	Topsoil	Soft, dark brown silty loam, 2% flint inc.	>30	>1.8	0.29	
201	Subsoil	Soft, mid yellow brown silty clay, 2% flint inc.	>30	>1.8	0.2	
202	Alluvium	Soft, mid grey blue to orange clay silt, 5% stone inc.	>8	>1.8	0.18	
203	River terrace gravels	Loose, Light brown yellow silty sand, 70% stones	>7	>1.8		
204	Made-ground	Soft, mid yellow brown sandy silt, frequent stone, rubble and plastic	>19	>1.8	0.64	C20
205	Made-ground	Soft, dark grey brown silty clay, moderate quantity of brick and plastic	>19	>1.8	0.22	C20
206	Alluvium	Soft, mid orange brown clay silt, no inc.	>22	>1.8	>0.13	
Trench 3						
300	Topsoil	Friable, dark grey brown silty clay, 25% construction debris	>29	>1.8	0.16	
301	Made-ground	Loose, mid yellow brown clay silt, frequent inclusions of rubble chalk and stones	>29	>1.8	0.6	C20
302	Buried topsoil	Friable, dark grey brown clay silt, no inc.	>29	>1.8	0.2	
303	Alluvium	Soft, Mid orange brown silty clay, no inc.	>29	>1.8	0.8	
Trench 4						
400	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	>29	>1.8	0.18	
401	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>29	>1.8	0.28	
402	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>29	>1.8		
403	Hedge/ditch	NE-SW linear, irregular 30° sides and concave base	>1	1.5	0.2	Undated
404	Secondary silting	Soft, mid grey brown, clay silt, occasional flint inc.	>1	1.5	0.2	
405	Ditch	N-S linear, straight 45° sides and concave base	>1	1.41	0.46	C11-C14

406	Secondary silting	Firm, mid grey brown silty clay, occasional flint inc.	>1	1.41	0.46	
Trench 5						
500	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	28	1.8	0.2	
501	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	28	1.8	0.3	
502	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	28	1.8		
Trench 6						
600	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	30	1.8	0.22	
601	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	30	1.8	0.5	
602	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	30	1.8		
603	Ditch	N-S linear, straight 45° sides and concave base	>1	0.9	0.36	Undated
604	Secondary silting	Soft, mid grey brown, clay silt, occasional flint and chalk inc.	>1	0.9	0.36	
605	Ditch	N-S linear, straight 45° sides and irregular base	>1	1.6	0.3	C11-C14
606	Secondary silting	Firm, mid grey brown silty clay, occasional chalk and flint inc.	>1	1.6	0.3	
Trench 7						
700	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	>31	1.8	0.27	
701	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>31	1.8	0.26	
702	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>31	1.8		
703	Ditch	N-S Linear, Straight 45° sides concave slightly stepped base	>1.4	1.7	0.57	Medieval?
704	Secondary silting	Soft, mid grey brown clay silt, 2% flint inc.	>1.4	1.7	0.57	
705	Ditch	NW-SE linear, stepped NE side, lower 70°- mid 30°- upper 45°, base and other side not seen	>1.4	>2.45	>0.9	Medieval?
706	Secondary silting	Firm, mid grey brown silty clay, moderate stone and occasional chalk inc.	>1.4	>2.46	>0.9	
707	Deliberate backfill	Firm, mid yellow grey clay, frequent chalk and moderate stone inc.	>1.4	>2	0.22	
Trench 8						
800	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.22	
801	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.22	
802	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
Trench 9						
900	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	>31	>1.8	0.35	
901	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>32	>1.8	0.6	

902	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>33	>1.8		
903	Ditch	NE-SW linear unexcavated	>1.8	1		Undated
904	Secondary silting	Soft, mid yellow brown clay silt	>1.8	1		
Trench 10						
1000	Topsoil	Friable, Dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.4	
1001	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.44	
1002	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
1003	Ditch	NE-SW linear, straight 45° sides, concave base	>1	0.9	0.44	Undated
1004	Secondary silting	Soft, mid grey brown clay silt, occasional chalk and flint inc.	>1	0.9	0.44	
Trench 11						
1100	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.28	
1101	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.19	
1102	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
Trench 12						
1200	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>28.5	>1.8	0.3	
1201	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>28.5	>1.8	0.6	
1202	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>28.5	>1.8		
Trench 13						
1300	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.26	
1301	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.28	
1302	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
1303	Ditch	N-S linear, straight 30°-45° sides, flat base	>1	1.35	0.22	Undated
1304	Secondary silting	Soft, mid yellow brown, clay silt, moderate chalk inc.	>1	1.35	0.22	
Trench 14						
1400	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.3	
1401	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.45	
1402	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
Trench 15						
1500	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>26	>1.8	0.3	

1501	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>26	>1.8	0.2	
1502	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>26	>1.8		
Trench 16						
1600	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>33	>1.8	0.27	
1601	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>33	>1.8	0.8	
1602	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>33	>1.8		
Trench 17						
1700	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.3	
1701	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.18	
1702	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
Trench 18						
1800	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>29	>1.8	0.3	
1801	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>29	>1.8	0.25	
1802	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>29	>1.8		
Trench 19						
1900	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>29.7	>1.8	0.25	
1901	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>29.7	>1.8	0.41	
1902	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>29.7	>1.8		
Trench 20						
2000	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>28.7	>1.8	0.35	
2001	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>28.7	>1.8	0.3	
2002	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>28.7	>1.8		
Trench 21						
2100	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>30	>1.8	0.3	
2101	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.2	
2102	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
2103	Ditch	N-S linear, straight 70° sides, flat base	>1	0.9	0.34	Undated
2104	Secondary silting	Soft, mid yellow brown, clay silt occasional small flint and chalk inc.	>1	0.9	0.34	
2105	Ditch	N-S linear, unexcavated	>2.5	0.9		Undated

2106	Secondary silting	Soft, mid yellow brown, clay silt occasional small flint and chalk inc.	>2.5	0.9		
2107	Ditch	N-S linear, unexcavated	>2.5	0.9		Undated
2108	Secondary silting	Soft, mid yellow brown, clay silt occasional small flint and chalk inc.	>2.5	0.9		
Trench 22						
2200	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>30	>1.8	0.34	
2201	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.16	
2202	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
2203	Ditch	NE-SW linear, straight sides 70° on NW and slightly undercutting on SE, flat base	>1	1.4	0.68	Roman
2204	Secondary silting	Soft, mid grey brown clay silt 1% small fragments of flint	>1	1.4	0.68	
2205	Ditch	N-S linear, straight near vertical sides and flat base, lots of bioturbation on E side	>1.2	0.6	0.35	Undated
2206	Secondary silting	Soft, mid yellow brown clay silt 1% small fragments of flint	>1.2	0.6	0.35	
2207	Ditch	N-S linear, unexcavated	>3	0.6		Undated
2208	Secondary silting	Soft, mid yellow brown clay silt 1% small fragments of flint	>3	0.6		
Trench 23						
2300	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>29	>1.8	0.34	
2301	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>29	>1.8	0.14	
2302	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>29	>1.8		
2303	Ditch	NW-SE linear, convex 65° sides, narrow concave base,	>1	1.22	0.8	Post-medieval/ modern
2304	Secondary silting	Soft, mid grey brown clay silt, 5% stone and 3% chalk inc.	>1	1.22	0.8	
2305	Ditch	N-S Linear, straight 60° sides, flattish base	>1	1.13	0.39	Undated
2306	Secondary silting	Soft, mid grey brown clay silt, 4% stone inc.	>1	1.13	0.39	
Trench 24						
2400	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>30	>1.8	0.26	
2401	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.34	
2402	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
2403	Ditch	NE-SW linear, straight 60° SE side, 35° NW side, flat base	>1	0.95	0.27	Undated
2404	Primary silting	Firm, mid brown grey, clay, frequent chalk and flint inc.	>1	0.47	0.26	
2405	Secondary silting	Soft, mid grey brown clay silt, firm occasional chalk and flint inc.	>1	0.7	0.27	

2406	Ditch	N-S linear, straight 70° sides, flat base	>1	0.9	0.33	Undated
2407	Primary silting	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>1	0.45	0.25	
2408	Secondary silting	Soft, mid yellow brown clay silt, occasional flint inc.	>1	0.9	0.33	
2409	Ditch	N-S linear, unexcavated	>3	0.9		Undated
2410	Secondary silting	Soft, mid yellow brown clay silt, occasional flint inc.	>3	0.9		
2411	Ditch	N-S linear, unexcavated	>3	0.9		Undated
2412	Secondary silting	Soft, mid yellow brown clay silt, occasional flint inc.	>3	0.9		
Trench 25						
2500	Ploughsoil	Friable, mid brown grey clay silt, 5% small stone inc.	>30	>1.8	0.3	
2501	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.22	
2502	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
2503	Ditch	NW-SE Linear, straight 80° sides, flat base	>1	1.52	0.59	Roman?
2504	Secondary silting	Soft, mid yellow brown, clay silt, 2% flint fragments	>1	1.52	0.59	
Trench 26						
2600	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>21	>1.8	0.27	
2601	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>14	>1.8	0.32	
2602	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>21	>1.8		
2603	Quarry pit	Circular cut extending beyond trench, straight 45° sides base not reached	>7	>1.8	>0.95	Modern
2604	Secondary silting	Soft, mid orange brown clay silt, no inc.	>7	>1.8	>0.95	
Trench 27						
2700	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>30	>1.8	0.44	
2701	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>30	>1.8	0.26	
2702	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>30	>1.8		
2703	Ditch	E-W linear, convex 45° sides, concave base	>2	4.4	1.23	Undated
2704	Secondary silting	Soft, mid purple grey, clay silt, no inc.	>2	1.65	0.35	
2705	Secondary silting	Firm, mid orange brown, silty clay, 2% flint inc.	>2	2.36	1.03	
2706	Secondary silting	Soft, mid brown orange, clay silt, no inc.	>2	1.7	0.3	
2707	Ditch recut of 2703	E-W linear, concave 35° N side, 45° south side, concave base	>2	1.8	0.6	Undated
2708	Secondary silting	Soft, dark purple grey clay silt, no inc.	>2	1.8	0.25	

2709	Deliberate backfill	Firm, mid brown grey, clay, frequent chalk and flint inc.	>2	2.65	0.35	
Trench 28						
2800	Topsoil	Friable, dark brown grey clay silt, 5% small stone inc.	>10	>1.8	0.35	
2801	Subsoil	Soft, mid yellow brown silty clay, 2% stone inc.	>10	>1.8	0.55	
2802	Geology	Firm, light yellow grey clay, frequent chalk inc., occasional flint inc.	>10	>1.8		
2803	Ditch	NE-SW linear, straight 45° sides, concave base	>1	1.55	0.48	Undated
2804	Secondary silting	Soft, mid grey brown clay silt, occasional chalk and flint inc.	>1	1.55	0.48	

APPENDIX D: THE FINDS AND PALAEOENVIRONMENTAL EVIDENCE

Table 1: Quantification of finds by context

Context	Description	Count	Weight (g)	Spot-date
404	Fired clay	1	14	-
406	Medieval pottery: internally-glazed sandy fabric	7	24	C11-C14
604	Shell	5	50	-
606	Medieval pottery: unglazed sandy fabric	1	10	C11-C14
2204	Roman pottery: black-firing, sand-tempered fabric	1	6	RB
<3>	Pottery	1	0.8	RB
<3>	Worked flint: flakes, chips	12	3	
<3>	Burnt flint	9	1	
2304 <2>	Burnt flint	3	2	
2405<1>	Worked flint: flakes, chips	10	3	
<1>	Burnt flint	7	0.8	
2604	Modern pottery: 'late' English stoneware	1	7	MC19-MC20
	Post-medieval ceramic building material: flat roof tile	1	17	
	Stone: slate	1	36	

<sample no.>

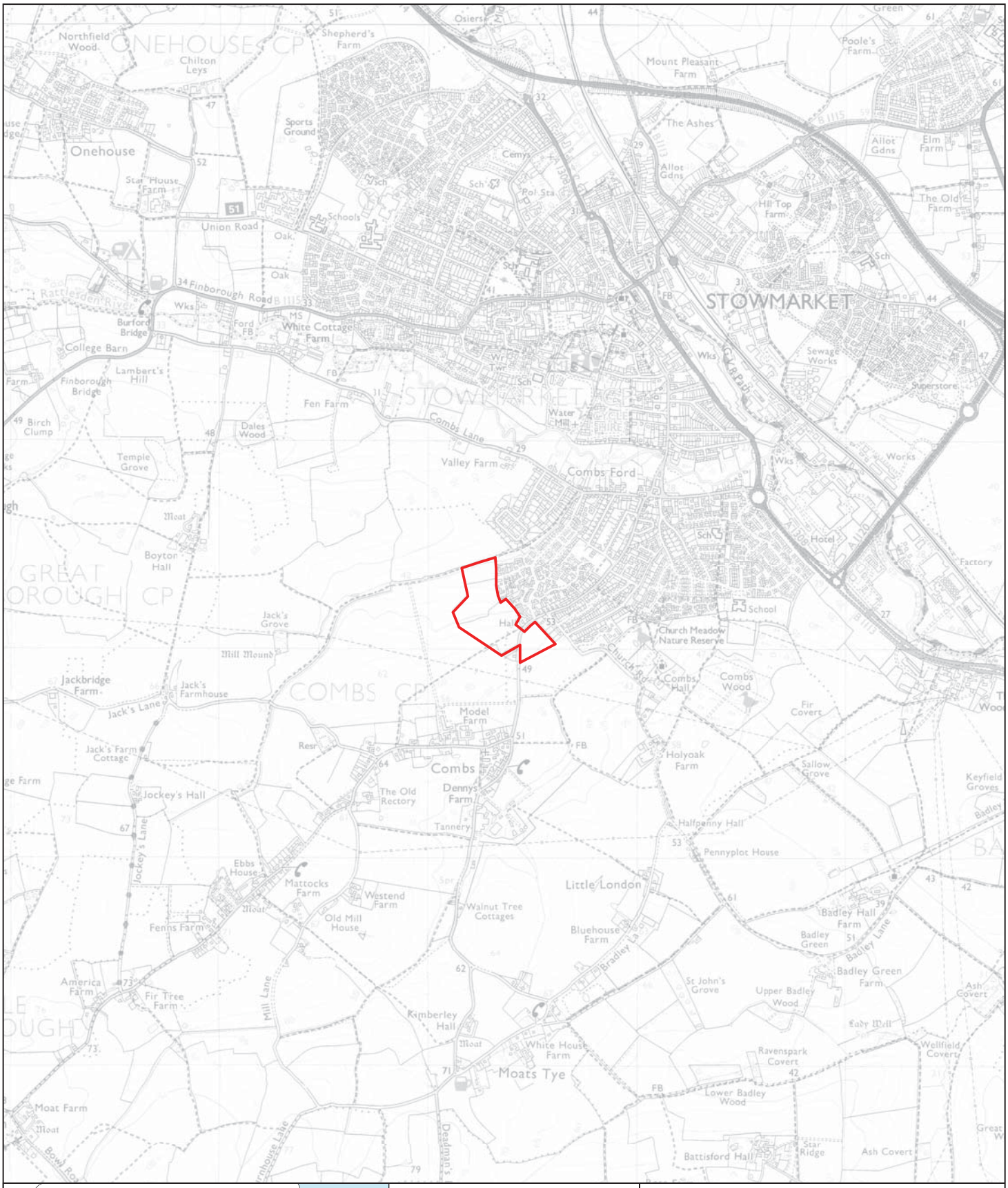
Table 2: Identified animal species by fragment count (NISP) and weight and context

Cut	Fill	BOS	O/C	EQ	LM	MM	Total	Weight (g)
medieval								
405	406				5	1	6	42
605	606	2					2	186
Subtotal		**2**			**5**	**1**	**8**	**228**
undated								
603	604		1				1	13
2803	2804			2			2	92
Subtotal			**1**	**2**			**3**	**115**
Total		**2**	**1**	**2**	**5**	**1**	**11**	
Weight		**186**	**13**	**92**	**41**	**1**	**333**	

BOS = Cattle; O/C = sheep/goat; EQ = horse; LM= large-sized mammal; MM = medium-sized mammal

APPENDIX E: OASIS REPORT FORM

PROJECT DETAILS		
Project name	Land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk	
Short description	The evaluation comprised the excavation of twenty-eight 30m trial trenches in three fields. Possibly the earliest remains were encountered in the southern part of the site, where a sherd of Roman pottery was recovered from a ditch that may have formed part of a rectilinear enclosure on the crest of the hill. Further to the north, near the base of the slope that overlooks the small stream that forms the site's northern boundary, a medieval ditch system was investigated. Sherds of 11th to 14th-century pottery were recovered from two of the ditches, along with a small assemblage of animal bone; the other ditches in this area are undated but several are probably associated with the ditch system. Other features included former field boundary ditches, agricultural trenches and a modern quarry pit.	
Project dates	19 January-3 February 2015	
Project type	Field evaluation	
Previous work	Heritage Desk-Based Assessment (CA 2014); geophysical survey (ArchaeoPhysica 2014)	
Future work	Unknown	
Monument type	None	
Significant finds	None	
PROJECT LOCATION		
Site location	Land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk	
Study area	*c.* 11ha	
Site co-ordinates	TM 0426 5715	
PROJECT CREATORS		
Name of organisation	Cotswold Archaeology (CA)	
Project Brief originator	-	
Project Design (WSI) originator	CA	
Project Manager	Simon Carlyle (CA)	
Project Supervisor	Ralph Brown (CA)	
PROJECT ARCHIVE		
	Accession no: COM 041	Content
Physical	Suffolk Museums	Pottery, animal bone
Paper		Site records
Digital	Suffolk HER	Report, digital photos
BIBLIOGRAPHY		
CA (Cotswold Archaeology) 2015 *Land off Farrier's Road and Poplar Hill, Stowmarket, Suffolk: Archaeological Evaluation.* CA typescript report **15079**		



N

0 1km

Cotswold Archaeology

Cirencester 01285 771022
Milton Keynes 01908 218320
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE

Site location plan

DRAWN BY	**660405**	*PROJECT NO.*	**660405**	*FIGURE NO.*
CHECKED BY	**DJB**	*DATE*	**09-02-2015**	**1**
APPROVED BY	**JB**	*SCALE@A4*	**1:25,000**	

042
044
046
574
572
570
Figure 2
Figure 3
Field 1
Field 2
Field 3
T1
T2
T3
T4
T5
T6
T7
T8
T9
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T28
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6
7
Farrier's Road
Poplar Hill
N
site boundary
evaluation trench
archaeological feature
modern
Geophysics Key
(ArchaeoPhysica Ltd)
>50nT
>20nT
>5nT
>1.5nT
<-1.5nT
<-5nT
<-20nT
<-50nT
Catalogue
text
Labels
Archaeology
Fills
Agricluture
Field boundaries
0
100m

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk
PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk
FIGURE TITLE
Trench location plan showing archaeological features and geophysical survey results
DRAWN BY DJB
CHECKED BY JB
APPROVED BY SC
PROJECT NO. 660405
DATE 09-02-2015
SCALE@A3 1:2000
FIGURE NO. 2
TM
P:\660405 Farrier's Road, Stowmarket EVAL\Illustration\Drafts\660405 Farriers Road Fig 2-4.dwg

Field 1

Field 2

Farriers Road

T1

T2

T3

T4

T5

T6

T7

T8

T9

T10

T11

T12

T13

T14

T15

T16

T17

T18

T19

T20

T26

T27

T28

ditch 605

ditch 603

hedge/ditch 403

ditch 405

ditch 2703 (see Fig. 8)

ditch 705

ditch 703

ditch 2803

ditch 903

ditch 1003

ditch 1303

quarry 2603

Fig. 5

Fig. 6

Fig. 6

A

A

1

N

site boundary

evaluation trench

archaeological feature

modern

approximate area of quarry earthwork

Fig. 5 photograph location (general view)

Geophysics Key
(ArchaeoPhysica Ltd)

>50nT
>20nT
>5nT
>1.5nT
<-1.5nT
<-5nT
<-20nT
<-50nT

Catalogue

text Labels

Archaeology

Fills

Agricluture

Field boundaries

0 50m

Cotswold Archaeology

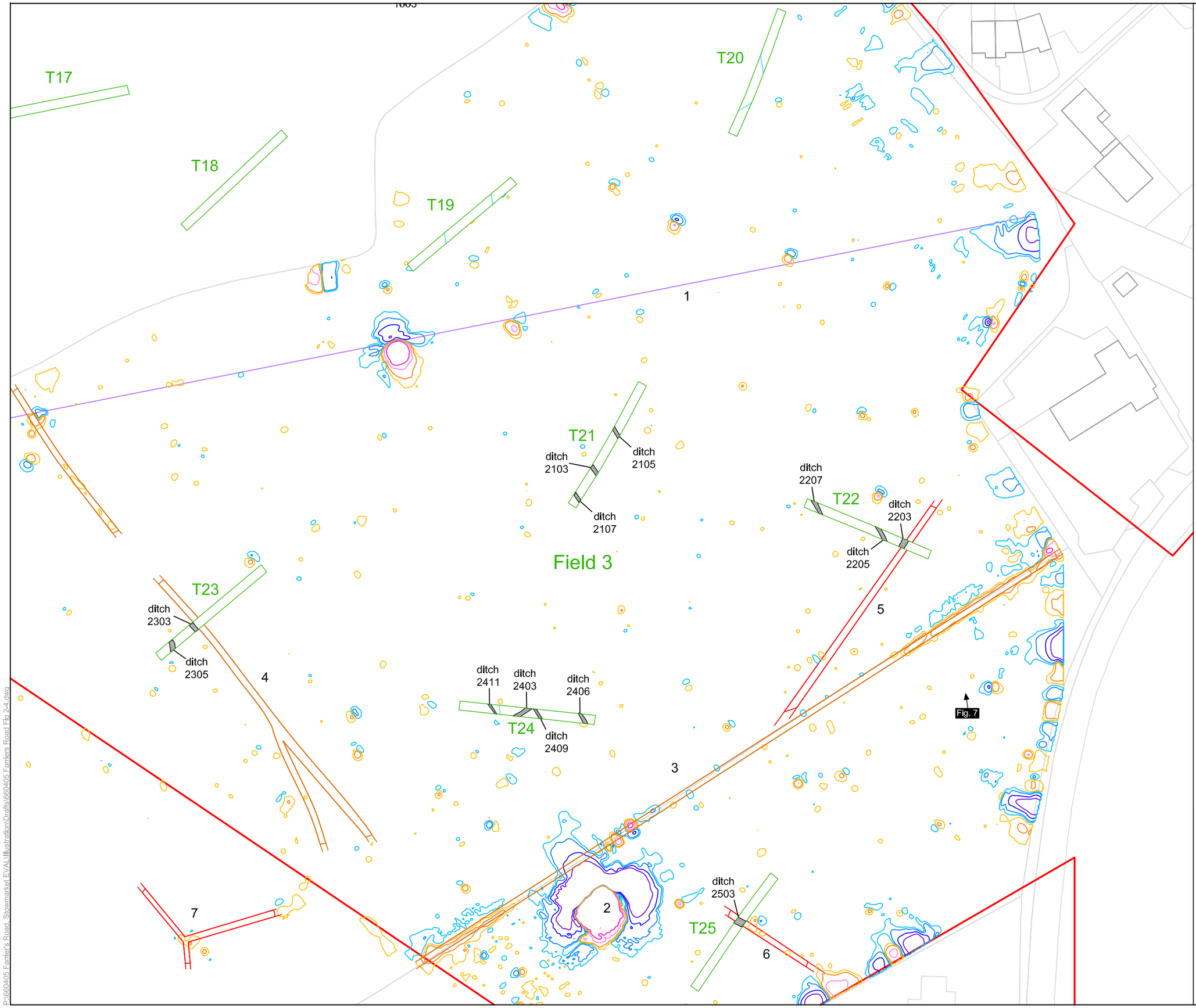
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE
Fields 1 and 2: trench location plan showing geophysical survey results and archaeological features

DRAWN BY	DJB	PROJECT NO.	660405	FIGURE NO.
CHECKED BY	JB	DATE	09-02-2015	3
APPROVED BY	SC	SCALE@A3	1:1000	

P:\660405 Farrier's Road, Stowmarket EVAL\Illustration\Drafts\660405 Farriers Road Fig 2-4.dwg



N

site boundary

evaluation trench

archaeological feature

modern

approximate area of quarry earthwork

Fig.5 photograph location (general view)

Geophysics Key
(ArchaeoPhysica Ltd)

>50nT
>20nT
>5nT
>1.5nT
<-1.5nT
<-5nT
<-20nT
<-50nT

Catalogue

text Labels

Archaeology

Fills

Agricluture

Field boundaries

0 25m

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE
Field 3: trench location plan showing geophysical survey results and archaeological features

DRAWN BY	DJB	PROJECT NO.	660405	FIGURE NO.
CHECKED BY	JB	DATE	09-02-2015	4
APPROVED BY	SC	SCALE@A3	1:750	

P:\660405 Farrier's Road, Stowmarket EVAL\Illustration\Drafts\660405 Farriers Road Fig 2-4.dwg

5

6

5 General view of Field 1, looking west

6 General view of Field 2, looking north

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE
Photographs

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CHECKED BY	JB	DATE	09-02-2015
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FIGURE NO.
5 & 6

7

8

7 General view of Field 3, looking north

8 Trench 1, made-ground, looking east (scale 1m)

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE

Photographs

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CHECKED BY	JB	DATE	09-02-2015
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FIGURE NO.

7 & 8

9

10

9 Ditch 405, looking north-west (scale 1m)

10 Ditch 605, looking south (scales 1m & 0.4m)

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
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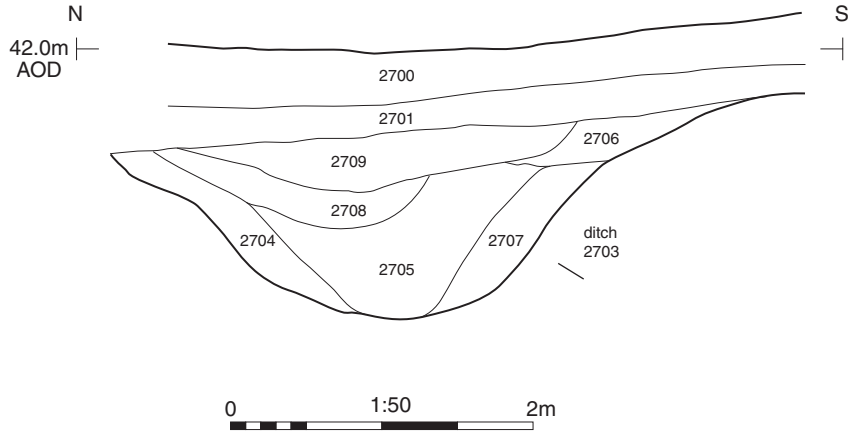
FIGURE TITLE
Photographs

DRAWN BY	DJB	PROJECT NO.	660405
CHECKED BY	JB	DATE	09-02-2015
APPROVED BY	SCC	SCALE @ A4	NA

FIGURE NO.
9 & 10

Section AA



Ditch 2703 looking east (scale 1m)

Cotswold Archaeology

Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE

Trench 27: section and photograph

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CHECKED BY	**DJB**	*DATE*	**09-02-2015**	**11**
APPROVED BY	**JB**	*SCALE@A4*	**1:50**	

12

13

12 Ditch 2803, looking south-west (scale 1m)

13 Ditch 2203, looking south-west (scale 1m)

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Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

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FIGURE TITLE
Photographs

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FIGURE NO.
12 & 13

14

15

14 Ditch 2503, looking south-east (scale 1m)

15 Ditch 2303, looking south-east (scale 1m)

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Cirencester 01285 771022
Milton Ke ynes 01908 564660
Ando ver 01264 347630
w www.cotswoldarchaeolog y.co.uk
e enquiries@ cotswoldarchaeolog y.co.uk

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FIGURE TITLE
Photographs

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FIGURE NO.
14 & 15

16

16 Ditch 2103 looking south-east (scale 1m)

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Cirencester 01285 771022
Milton Ke ynes 01908 564660
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e enquiries@ cotswoldarchaeolog y.co.uk

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FIGURE TITLE
Photograph

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FIGURE NO.
16

17 Aerial Photograph of 1946

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Cirencester 01285 771022
Milton Keynes 01908 564660
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE
Aerial photograph

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18 Detail from 1841 Tithe Map of the Parish of Combs

Cotswold Archaeology
Cirencester 01285 771022
Milton Keynes 01908 218320
Andover 01264 347630
w www.cotswoldarchaeology.co.uk
e enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE
Farrier's Road, Stowmarket, Suffolk

FIGURE TITLE
Historic map

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DRAWN BY	**DJB**	*REVISION*	**00**	**18**
APPROVED BY	**JB**	*SCALE@A4*	**NA**	