LAND AT HENWICK PARK
THATCHAM, WEST BERKSHIRE

Archaeological Geophysical Survey
2015

Report by:

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Land at Henwick Park, Thatcham, West Berkshire

Geophysical Survey 2015

Abstract

This geophysical survey was undertaken as part of an archaeological field evaluation of an area of land being considered for residential development to the north of Thatcham, Berkshire.

The survey has produced findings which are consistent with the limited expectations for the site, and with the conclusions as stated in the Archaeological Desk Based Assessment, which was previously prepared by CgMs Consulting. Findings include disturbances towards the east of the site at a location corresponding to 18th – 19th C (and perhaps more recent) farm buildings, but there is no evidence for the presence of any other clearly identifiable archaeological features.

1. Introduction

The survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by CgMs Consulting of Cheltenham on behalf of Croudace Strategic. Fieldwork for the survey was done on 23-27 February 2015. A data plot showing the survey findings has previously been supplied to CgMs, and is now included in this report.

2. Objectives of the Survey

The purpose of the survey was to test for evidence of archaeological sites or remains, and to provide information which may inform further stages of the archaeological evaluation.

A geophysical survey is usually able to identify the extent and character of any archaeological remains capable of producing a magnetic response. The magnetometer will detect cut features such as ditches and pits when they are silted with an increased depth of topsoil, which usually responds more strongly than the underlying natural subsoil. Fired materials, including baked clay structures such as kilns or hearths are also likely to produce a localised enhancement of the magnetic field strength, and the survey therefore responds preferentially to the presence of ancient settlement or industrial remains. The survey is also strongly affected by ferrous and other debris of recent origin.

3. The Site

The location and condition of the site are described in the Archaeological Desk Based

Assessment (DBA), as prepared by CgMs. [Report reference JG/18135; December 2014.] The following comments are summarised in part from this document.

Topography and geology

The evaluation area extends across arable and pasture fields (numbered 1-11 in an arbitrary sequence for reference on the enclosed plans), and centred approximately at NGR SU 510684 to the north of Tull Way, Thatcham. The total extent of the evaluation area (as outlined in red in figure 1) is 23.2ha. This includes an area of sloping and wooded ground to the north-west of the site, and various overgrown and obstructed corners. The total coverage achieved by the survey was therefore 19.9ha (as indicated by blue cross hatching).

The landscape within the site is described in the DBA as gently undulating with an altitude rising from c. 85m AOD in the south-east to 105m in the north-west. The underlying geology includes clay, silt and sands of the London Clay Formation, with superficial deposits of clay, silt, sand and gravel (Head) at the east of the site. Soils in some of the lower lying parts of the site were waterlogged.

The presence of gravel towards the east may be reflected in the magnetic susceptibility readings, which were recorded at intervals across the site. The readings (which are affected by soil composition together with past and present land use, and indicate the probable strength of response to be expected from a magnetometer survey) were in a range 13-21 (x 10^{-5} SI) in field 6, and typically 5-10 elsewhere. These readings (except in field 6) are at the lower end of the range of commonly encountered values (as is often the case on clay soils and wetland), but may be low in part because readings taken on grass are usually lower than on exposed soil. Conditions at the site should not therefore present any unusual difficulties for a magnetometer survey, but it is likely (as often) that smaller or more isolated features may respond less reliably than clusters or concentrations of archaeological findings.

Archaeological background

It is mentioned in the DBA that no archaeological events are listed by the HER or NMR within the study site, but various investigations have been undertaken within the surrounding 1km radius study area. (Some are indicated on the plan showing the site location and HER data which is inset in figure 1).

Previously identified archaeological sites include findings of mainly Iron Age date (pits, ditches and hearths as labelled in figure 1) in an excavation at Dunston Park c. 370m to the east. Findings from an evaluation and surface collection c. 180m to the west of the present site were limited to a scatter of burnt flint, and a geophysical survey was unproductive.

Roman findings within the study area are recorded mainly in the vicinity of Ermin Street, which is 600m to the south, but there was evidence for continuing Roman occupation at an Iron Age settlement 450m to the west, and Roman pottery is also recorded 400m to the north. There is no evidence for Saxon or Medieval settlement from the study area. The DBA concludes therefore, on the basis of nearby activity, that there is potential (but no direct evidence) for a Prehistoric or later farmstead to exist on higher ground to the west of the study site, but little likelihood of similar findings from the remainder of the site.

Historic maps (reproduced in the DBA) confirm that the site was in agricultural use during later periods. Buildings are shown at the east of the site (towards the south of field 6) on the Roque map of 1761 (figure 2 in DBA), and on a tithe map of 1842 (figure 4 in DBA, and reproduced here in figure 7). Disturbances associated with these probable farm buildings appear to have been detected by the survey.

4. Survey Procedure

The procedure used for the investigation was a fluxgate gradiometer survey across the evaluation area. The survey was supplemented by magnetic susceptibility measurements taken in each of the fields across the site.

A survey grid was set out at the required locations, and tied to the OS grid using a GPS system with Omnistar correction to provide 0.1m or greater accuracy. The plans are therefore geo-referenced, and OS co-ordinates of map locations can be read from the AutoCAD version of the plans.

The magnetometer readings were collected along transects 1m apart using Bartington 1m fluxgate gradiometers, and are plotted at 25cm intervals along each transect. The results of the survey are presented as grey a scale plot (at 1:2000 scale) in figures 2-3, and as a graphical (x-y trace) plot in figures 4-6 (at 1:1250 at A3). Inclusion of both types of presentation allows the detected magnetic anomalies to be examined in plan and profile respectively.

The graphical (x-y) plot represents minimally pre-processed magnetometer readings, as recommended for initial presentation of survey data in the 2008 English Heritage geophysical guidelines document [1]. Adjustments are made for irregularities in line spacing caused by variations in the instrument zero setting (as is required for legibility in gradiometer data), but no further filtering or other process which could affect the anomaly profiles or influence the interpretation of the data has been applied. A weak additional 2D low pass filter has been applied to the grey scale plot to adjust background noise levels.

An interpretation of the findings is shown in figures 4-6, and is reproduced separately to provide a summary of the findings in figure 7. Colour coding has been used in the interpretation to distinguish different effects. The interpretation is intended to categorize most of the identifiable magnetic anomalies, but cannot reproduce the detail of the grey scale plots.

Features as marked include magnetic anomalies which may show characteristics to be expected from features of potential archaeological significance (in red), and recent disturbances in grey. Small (and mainly natural) background magnetic anomalies are outlined in light brown. Some of the more conspicuous ferrous objects (identifiable as narrow spikes in the graphical plots) are outlined in light blue, and probable land drains and pipes are also marked.

5. Results

The survey has produced only limited findings. These are described by fields in the order

as numbered on the plans.

Fields 1-2

Findings include a line of strong disturbances possibly indicating a pipe, or a ditch infilled with recent debris (labelled A in field 2 on figure 7). There is a sequence of small magnetic anomalies (which sometimes indicate sections of clay land drain) at B in field 1. (It is probable that other drains are present throughout the survey, only some of which are indicated in the interpretation.) Strong disturbances (C) at the south of field 1 are near to the adjacent hotel.

There is a distinct pit-like magnetic anomaly at D in field 1. This is probably too isolated to indicate the presence of an archaeological site, and so could perhaps be a tree hollow or similar feature.

Fields 3-5

These fields produced an almost entirely blank response with minor background disturbances (indicated in light brown), and some possible land drains. Items of ferrous debris (blue) are uniformly distributed (here and elsewhere in the survey), with no distinct or potentially significant clusters or concentrations.

Fields 6-7

Findings in field 6 include a weak linear north-south feature at E, which links to an infilled ditch or drain at its southern end. These disturbances together correspond to a former field boundary shown on maps dated to 1900, and which had disappeared by 1932.

There is an increase in the concentration of small background magnetic anomalies across much of field 6 (and perhaps also in the centre of field 7). This variation could in part reflect the presence of gravel in the topsoil, but the effect is particularly strong in the southern half of field 6 (where magnetic anomalies have been outlined in a darker brown). There are also possible linear markings (suggesting ditches or a trackway) which are outlined in red at F and G. The disturbances here correspond in part (as mentioned above) to the location of buildings shown on the Roque map of 1761, and on the 1842 map inset in figure 7. The survey team were also told by the farmer that pig sties were once present in this field. It is possible therefore that the disturbances visible in the survey represent scatters of structural debris of 18th – 19th C and perhaps also more recent date.

Fields 8-11

There are few identifiable findings other than a pipe across the southern part of field 10, and various drains.

One possible pit-like feature is outlined in red at H in field 11. This is perhaps rather too large (c. 4m x 2m) and too isolated (as at D in field 1) to represent an archaeological feature, or to indicate the presence of an archaeological site.

6. Conclusions

The survey has detected various minor ground disturbances which are mainly of clearly recent or non-archaeological origin. The findings also include a former field boundary towards the east of the site (at E in field 6), and a cluster of disturbances in the southern part of the same field. These are likely to represent rubble or debris from 18th – 19th C farm buildings (as indicated on historic maps), and perhaps also from more recent structures.

The survey findings also include possible pit-like features at D and H in fields 1 and 11. These are not associated with any other findings to suggest the presence of an archaeological site, and are therefore possibly of natural or non-archaeological origin.

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The fieldwork for this project was done by P. Heykoop and M. Berry.

Reference

[1] English Heritage 2008 *Geophysical Survey in Archaeological Field Evaluation* [online facsimile] (English Heritage: Swindon, 2008), English Heritage Research.

169000N

451000E

N

Evaluation area

Survey coverage

Location of 1:2000 figures (2-3)

Location of 1:1250 figures (4-6)

Location of 1:2500 summary plan (7)

7

2

5

4

1

2

3

4

5

6

7

8

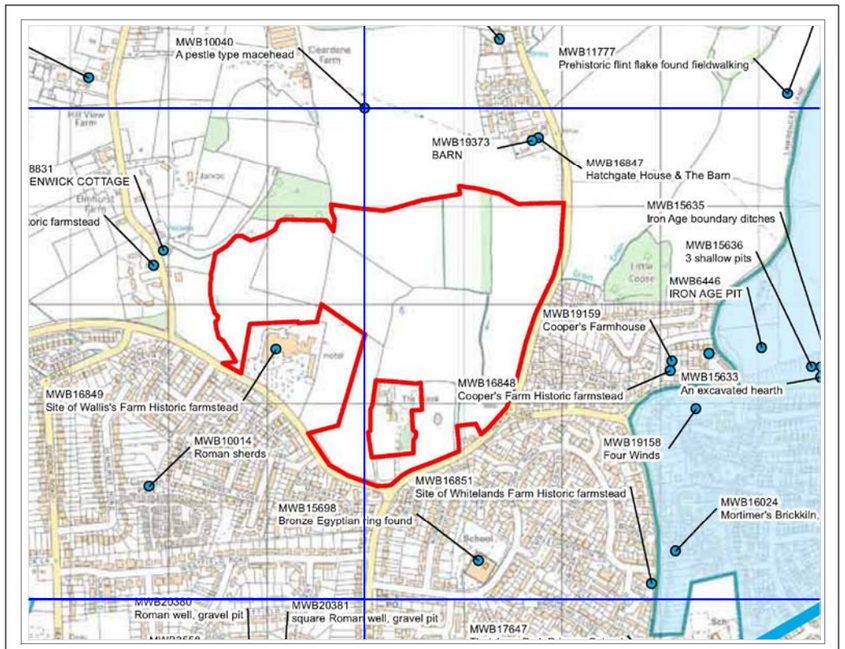
9

10

11

3

6



Survey location with HER Monuments data (from CgMs DBA Appendix 1) 1:12500

168000N

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Figure 1: Location of survey
(with HER data)

Scale 1:4000 @ A3

0 200m

N

1

2

3

4

5

6

7

8

10

11

too steep

trees

shrubs

trees

marsh grass and bog

overgrown

overgrown

pond

overgrown

overgrown

2.0 nT

-1.8

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Figure 2: Magnetometer survey (grey scale plot)

0 Scale 1:2000 @ A3 100m

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too steep

trees

shrubs

trees

marsh grass and bog

overgrown

pond

overgrown

overgrown

1

2

3

4

5

6

7

8

9

10

11

N

2.0 nT

-1.8

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Figure 3: Magnetometer survey
(grey scale plot)

0 Scale 1:2000 @ A3 100m

N

45 nT

too steep

trees

shrubs

trees

marsh grass
and bog

overgrown

1

2

3

4

overgrown

pond

7

magnetic anomalies (archaeological ?)

disturbances at site of former farm

strong magnetic disturbances
(recent / non-archaeological)

small background magnetic anomalies
(natural / non-archaeological)

pipe (and associated magnetic disturbance)

drain ?

strong (ferrous) magnetic anomalies

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Figure 4: Magnetometer survey
(with interpretation)

0 1:1250 @ A3 50m

overgrown

4

5

6

7

3

pond

45 nT

N

magnetic anomalies (archaeological ?)

disturbances at site of former farm

strong magnetic disturbances
(recent / non-archaeological)

small background magnetic anomalies
(natural / non-archaeological)

pipe (and associated magnetic disturbance)

drain ?

strong (ferrous) magnetic anomalies

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Figure 5: Magnetometer survey
(with interpretation)

0 1:1250 @ A3 50m

N

7

overgrown

45 nT

8

9

10

11

overgrown

magnetic anomalies (archaeological ?)

disturbances at site of former farm

strong magnetic disturbances (recent / non-archaeological)

small background magnetic anomalies (natural / non-archaeological)

pipe (and associated magnetic disturbance)

drain ?

strong (ferrous) magnetic anomalies

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Figure 6: Magnetometer survey (with interpretation)

0 1:1250 @ A3 50m

451000E

168500N

N

too steep

trees

shrubs

trees

marsh grass and bog

overgrown

overgrown

overgrown

pond

overgrown

overgrown

1

2

3

4

5

6

7

8

9

10

11

A

B

C

D

E

F

G

H

Tithe map 1842 (from CgMs DBA figure 4 1:6250

magnetic anomalies (archaeological ?)

disturbances at site of former farm

strong magnetic disturbances (recent / non-archaeological)

small background magnetic anomalies (natural / non-archaeological)

pipe (and associated magnetic disturbance)

drain ?

strong (ferrous) magnetic anomalies

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Figure 7: Summary of findings

1:2500 @ A3

0 100m

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