Land off Jacksons Meadow, Bidford on Avon, Warwickshire

Geophysical Survey
2014

Prepared by A. Boucher

CONTENTS

Abstract

This geophysical survey was undertaken as part of an archaeological field evaluation of a proposed development site at Bidford on Avon, Warwickshire.

The survey has detected various recent ground disturbances, particularly near field boundaries, but the ground surface across the greater part of the site appears to be substantially undisturbed, and the survey has not provided any evidence for the presence of archaeological findings, other than a few minor magnetic anomalies of no clear significance.

1. **Introduction**

The survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by Headland Archaeology (UK) Ltd on behalf of Bloor Homes. Fieldwork for the survey was done on 17 June 2014. [The survey was carried out at the same time as another nearby investigation for the same client at Salford Priors, Warwickshire. This is reported on separately.]

The site is an arable field (centred approximately at NGR SP093525) adjacent to existing housing immediately north of the village of Bidford on Avon. The evaluation area amounts to 1.4ha. The site is located on level ground at an elevation of c. 34m AOD.

2. Objectives of the Survey

The general aim of the geophysical survey was to identify the extent and character of any archaeological remains capable of producing a magnetic response; these can include ditches, large pits, kilns, ovens etc.

3. Geological Background

The site (according to the BGS website) is on a bedrock of Triassic Mercia Mudstone beneath a drift deposit of glacial sand and gravel. Soils on Triassic bedrock are sometimes not strongly responsive to magnetometer surveys, although gravel soils often provide satisfactory surveying conditions. Magnetic susceptibility readings taken at the site during the survey gave readings in a range 26-33 (x 10^{-5} SI). These readings are sufficiently high to suggest that conditions at the site should be suitable for the magnetic detection of archaeological features.

4. Archaeological Background

We have not been told of any specific known archaeological findings within the evaluation area. The survey will therefore serve as a prospecting exercise to test for the presence of previously unrecorded archaeological features at the site.

5. Survey Procedure

The procedure used for the investigation was a fluxgate gradiometer survey across the evaluation area, with results presented as described below.

A survey grid was set out at the required locations, and tied to the OS grid using a GPS system with VRS 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 in Illustration 1 (1:1250 scale at A4), and as a graphical (x-y trace) plot (at 1:1000) in Illustration 2. 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 (English Heritage 2008). 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 Illustration 2, and is reproduced separately to provide a summary of the findings in Illustration 3. Colour coding has been used in the interpretation to distinguish different interpretations and anomaly types.

6. Results

The survey has produced only very limited findings, and has provided no conclusive evidence for the presence of archaeological features or remains.

Findings which are marked on the interpretative plan (Illustration 3) include strong and probably recent magnetic disturbances (as outlined in grey) around the entrance at the north of the field, and near to the southern boundary. Further strong disturbances along the western boundary are probably caused by an adjacent fence.

There is a scatter of minor background disturbances (outlined in light brown), and ferrous objects (blue). These are not present in any unusual concentrations. Alignments of small magnetic anomalies (visible in the grey scale plot) which could represent land drains are indicted by broken lines in Illustration 3. These are weak, and may have been incompletely detected.

The remaining findings are a few small magnetic anomalies which are characterised by rounded profiles (in the graphical plot, Illustration 2), and so could be interpreted as silted pits. Such features are commonly found at archaeological sites, but the examples outlined in red (including those labelled A and C in Illustration 3) are small and isolated, and are not clearly distinguishable from other background disturbances. The larger magnetic anomaly at B could be a short ditch-like feature, but it is located in a disturbed area of the survey, and is not associated with any other features which would suggest the presence here of an archaeological site.

7. Conclusions

Conditions at the site appear to be favourable for the magnetic detection of archaeological features, but the survey plots indicate a generally quiet response with the exception of recent disturbances near to field boundaries, and some possible drains. The only findings which show any of the characteristics to be expected from archaeological features are a few small pit-like magnetic anomalies. These are widely dispersed, and unlikely to indicate the presence of an archaeological site.

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14 July 2014

The fieldwork for this project was done by N. Paveley and R. Organ.

References

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

English Heritage 2008b *Professional Services Guideline no. 1, 2nd edn* English Heritage Research.

Background mapping based on site plan by Axis Surveys, Burton on Trent.

409300E

N

Site location 1:4000

252500N

2.2 nT

-2.0

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Illustration 1: Magnetometer survey (grey scale plot)

1:1250 @ A4

0 50m

Surveyed by: Bartlett-Clark Consultancy 01865 200864
for: Headland Archaeology (UK) Ltd

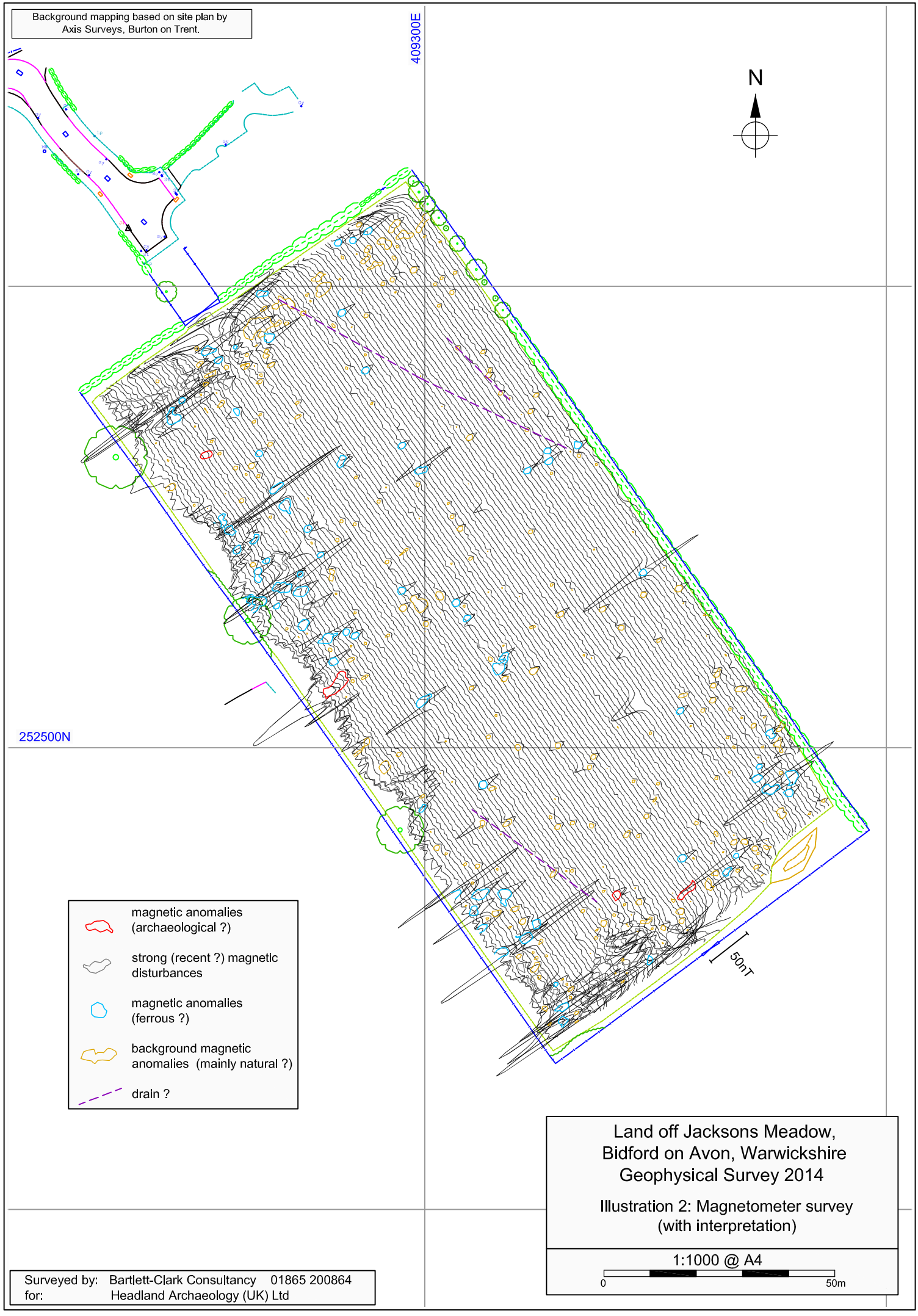
Background mapping based on site plan by Axis Surveys, Burton on Trent.
409300E
N
252500N
magnetic anomalies (archaeological ?)
strong (recent ?) magnetic disturbances
magnetic anomalies (ferrous ?)
background magnetic anomalies (mainly natural ?)
drain ?
50nT
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Illustration 2: Magnetometer survey (with interpretation)
1:1000 @ A4
0
50m
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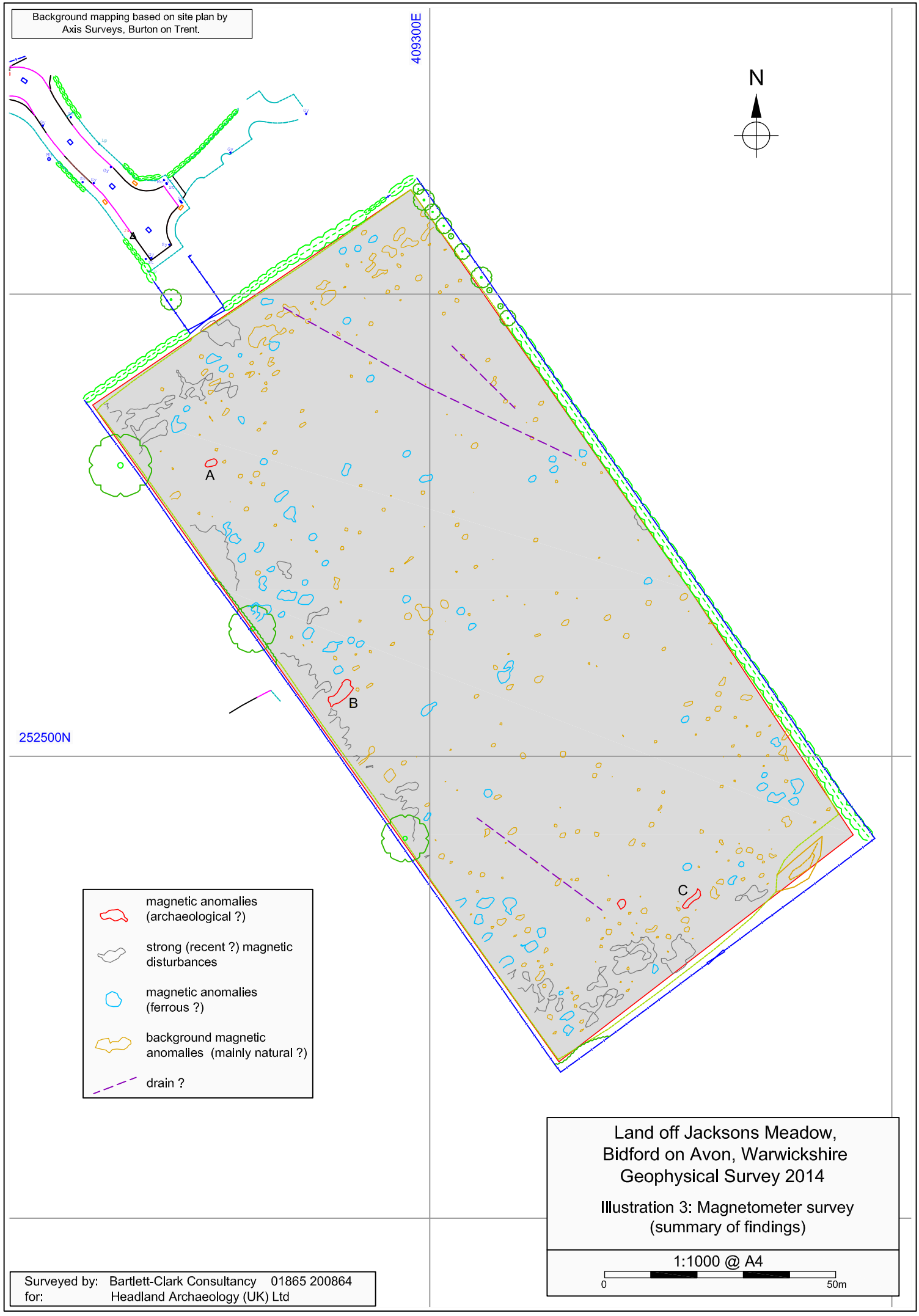
Background mapping based on site plan by Axis Surveys, Burton on Trent.
409300E
N
A
B
C
252500N
magnetic anomalies (archaeological ?)
strong (recent ?) magnetic disturbances
magnetic anomalies (ferrous ?)
background magnetic anomalies (mainly natural ?)
drain ?
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Illustration 3: Magnetometer survey (summary of findings)
1:1000 @ A4
0
50m
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for: Headland Archaeology (UK) Ltd