

**LAND AT ASHTON ROAD  
TROWBRIDGE, WILTSHIRE**

**Archaeological Geophysical Survey  
2016**

**Report by:**

**A.D.H. Bartlett**

**Bartlett-Clark Consultancy  
25 Estate Yard, Cuckoo Lane,  
North Leigh,  
Oxfordshire OX29 6PW  
01865 200864**

**for:**

**CgMs Consulting  
Burlington House,  
Lypiatt Road,  
Cheltenham,  
GL50 2SY**

# Land at Ashton Road, Trowbridge, Wiltshire

## Geophysical Survey 2016

### Abstract

*This report describes a geophysical survey which has been undertaken as part of an archaeological evaluation of a proposed development site near Trowbridge, Wiltshire.*

*The survey has responded strongly to traces of former cultivation, but has otherwise produced only minimal findings. This outcome is consistent with the conclusions as stated in the Archaeological Desk Based Assessment for the site, which was previously prepared by CgMs Consulting. It is stated in the DBA that the site is likely to be of low archaeological potential, and that no archaeological assets are recorded from the site, or from previous archaeological evaluations in the immediate vicinity. Findings from the survey include pipes, cultivation, recent disturbances and some weak linear markings which may represent land drains.*

### 1. Introduction

The survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by CgMs Consulting of Cheltenham on behalf of Taylor Wimpey. Fieldwork for the survey was done on 2-4 March 2016.

### 2. The Site

The location and condition of the site are described in the Archaeological Desk Based Assessment for the project, as prepared by CgMs [1], and this information was summarised also in the Written Scheme of Investigation submitted to CgMs in advance of the survey [2]. The following comments are reproduced or summarised from these documents.

#### *Topography and geology*

The study site is located within agricultural land to the east of Trowbridge, and centred approximately at NGR ST 878581. The site as described in the DBA consists of eight pastoral fields (fields A-H, as marked on the attached plans), of which fields A-D and G-H were to be investigated by the geophysical survey. These amount in total to c. 9.1ha. The fields are largely bounded by hedgerows, with a wooden post-and-rail fence located between Fields B and C. No evidence of earthworks, including ridge and furrow, was identified during a site visit by CgMs.

The study site is located within a relatively flat plain adjacent to the Paxcroft Brook. The topography of the study site is generally flat at c. 45m AOD.

The solid geology across the study site comprises Mudstone of the Oxford Clay Formation. No superficial deposits are recorded across the study site (British Geological Survey On-line Viewer). Sites in areas of Jurassic bedrock usually respond well to magnetometer surveying, and conditions here should therefore be reasonably favourable for the magnetic detection of archaeological features.

### *Archaeological background*

A geophysical survey and subsequent archaeological evaluation were carried out immediately to the west of the study site in 2006 (HER EWI6808 and EWI6419 as indicated on the extract from the HER plan inset in figure 4). The trial trenched evaluation identified no archaeological deposits or features, and the possible archaeological features recorded during the geophysical survey were found to be natural or the result of modern activity.

Historic mapping indicates that the study site formed unenclosed common land until it was enclosed in the 19th century. It is likely that the study site has been used as agricultural land since the 19th century. The Historic England Archive records Post-Medieval ridge and furrow across part of the study site (HEA 1578821). The ridge and furrow within the study site is no longer extant, but cultivation effects of this kind are sometimes detectable in a magnetometer survey (as was found to be the case here).

The DBA concludes there is only a low potential for archaeological activity of any period within the study site. The geophysical survey will serve to test or confirm this conclusion

### **3. 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.

### **4. Survey Procedure**

The procedure used for the investigation was a fluxgate gradiometer survey across the evaluation area. 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 (at 1:2000 scale) in figure 1, and as a graphical (x-y trace) plot in figures 2-3 (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 mentioned in the 2008 English Heritage geophysical guidelines document [3]. 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 2-3, and is reproduced separately to provide a summary of the results in figure 4. 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. (These are usually outlined in red, but in this case we have retained the category for completeness, but there do not appear to be any relevant findings.) Features which could possibly, but doubtfully, be of archaeological origin are shown in pink. Recent disturbances are shown in grey, and pipes in blue. Some of the more conspicuous ferrous objects (identifiable as narrow spikes in the graphical plots) are outlined in light blue. (These appear to be uniformly distributed, with no concentrations other than near the modern debris in field B.) Possible cultivation effects are indicated in green.

## 5. Results

We comment on the findings by fields from west to east across the site.

### *Fields A – C*

A number of clearly defined linear markings (as shown in green in the interpretation) which are likely to represent traces of ridge and furrow cultivation are visible in field A (and elsewhere in fields A – D). Strong disturbances (labelled a in figure 4) along the northern field boundary correspond to a former trackway. (This is shown on an OS map of 1889 reproduced as figure 3 in the DBA.)

Field B is subdivided by a linear disturbance (b) which may represent a pipe laid in a former boundary ditch. This lies close to a boundary as shown on the 1889 map. Strong disturbances (c) to the north of b are likely to be caused by recent debris, as is visible on the ground surface nearby.

The ridge and furrow cultivation pattern continues across the boundary between fields B and C, but terminates at another former boundary (d) in field C. The cultivation markings in the southern part of field C are weak and differently aligned, and may relate to more recent cultivation, rather than to ridge and furrow.

#### *Field D*

The cultivation markings in field D are narrower, and do not align with the pattern seen in fields A-C. They also align with the extant eastern field boundary. It is possible therefore that the parallel linear markings in field D relate to more recent ploughing, rather than the ridge and furrow (although there could be a superimposition of different effects).

Two further weak linear features are labelled at e and f. These are intersected by the cultivation, but could perhaps represent eroded traces of underlying ditches (or drains, as noted below).

#### *Fields G - H*

There are some ill-defined disturbances which may relate to cultivation in field G, together with indistinct traces of a possible broad linear pattern (visible in the grey scale plot, and shown in green in figure 4) in field H. The markings in field H could perhaps indicate additional ridge and furrow, but the evidence is inconclusive. These fields again contain linear features which do not align with the cultivation. These features (g, h) are marked in pink (representing magnetic anomalies of possible but doubtful archaeological relevance), but they converge to a point on the northern field boundary, and so are perhaps more likely to be land drains (as could also be the case with features e and f in field D). Other magnetic disturbances are located near to the field boundaries, are likely to be of recent origin.

## **6. Conclusions**

The strong response from cultivation effects in fields A-D confirms that conditions here should be entirely favourable for the magnetic detection of archaeological features, but no findings (other than ridge and furrow) which can be interpreted with any confidence as archaeological origin have been identified. The weak linear features (e – h) detected in fields D and H could perhaps indicate traces of an underlying field system, but the magnetic anomalies are weaker than would be expected (in this context) from silted ditches, and so it is perhaps more likely that they represent field drains. These features do not appear to be associated with any other identifiable findings which could indicate settlement remains or other archaeological features which may be associated with ancient enclosures.

It is possible that cultivation effects from different periods have been detected. Traces of ridge and furrow cultivation are most likely to be found in fields A – C.

**Report by:**

A. Bartlett BSc MPhil  
Bartlett - Clark Consultancy  
Specialists in Archaeogeophysics  
25 Estate Yard  
Cuckoo Lane  
North Leigh  
Oxfordshire  
OX29 6PW 01865 200864

[bcc123@ntlworld.com](mailto:bcc123@ntlworld.com)

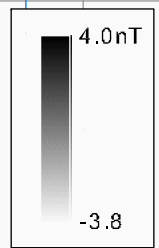
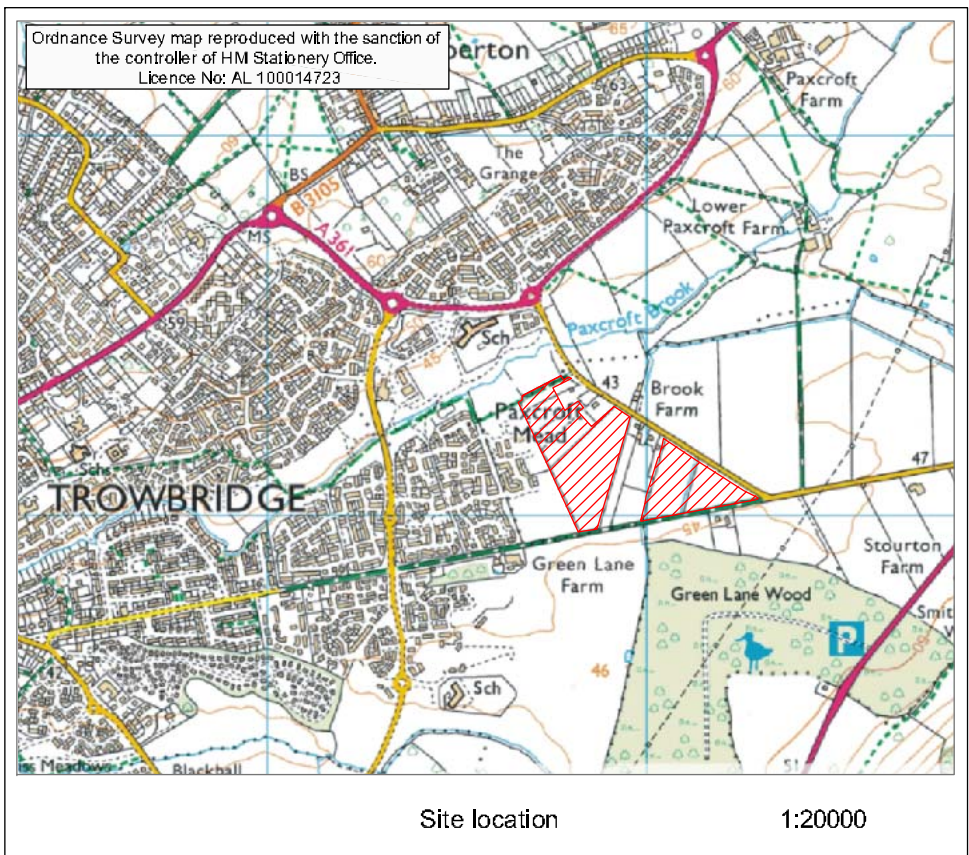
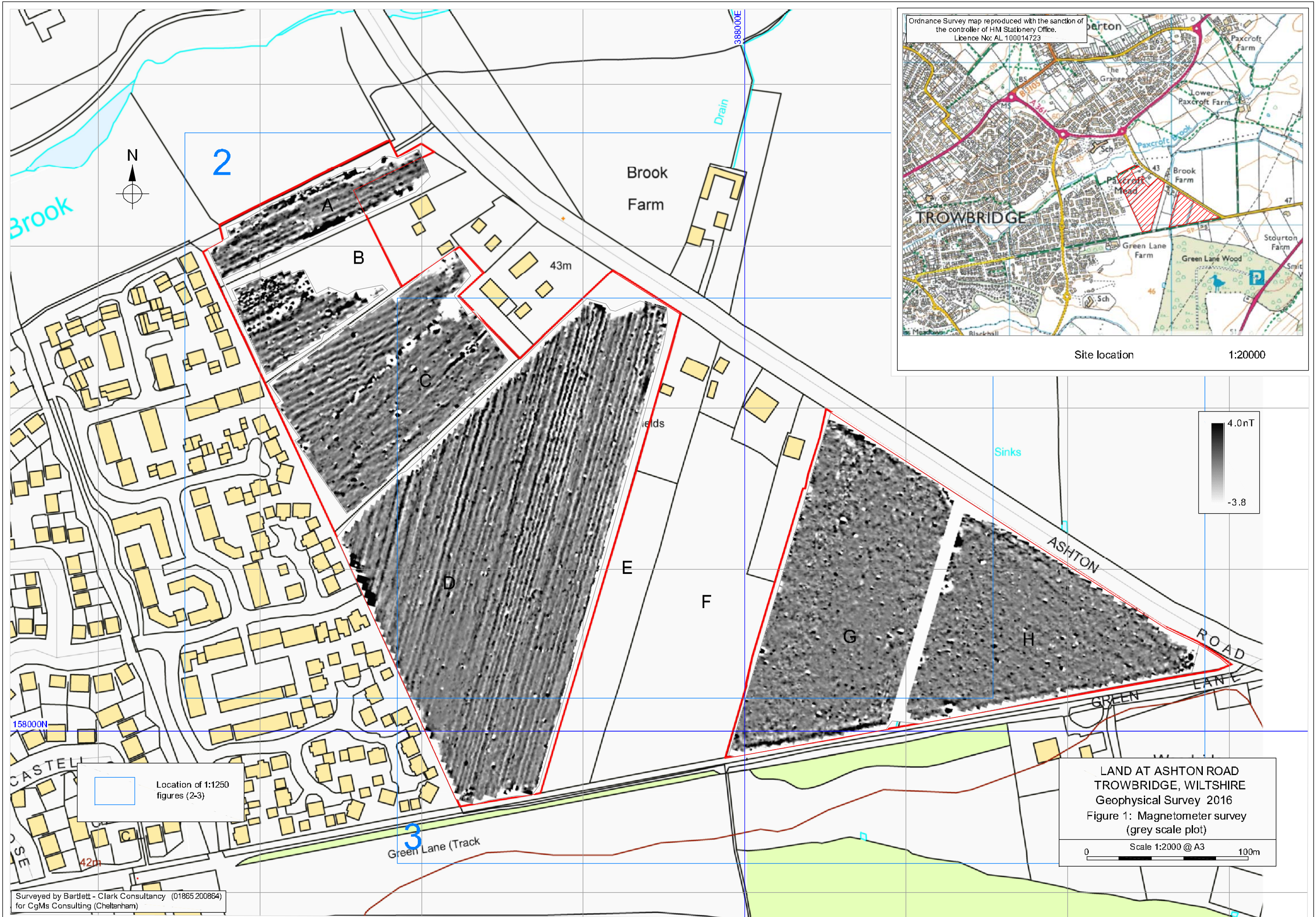
23 March 2016

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

**References**

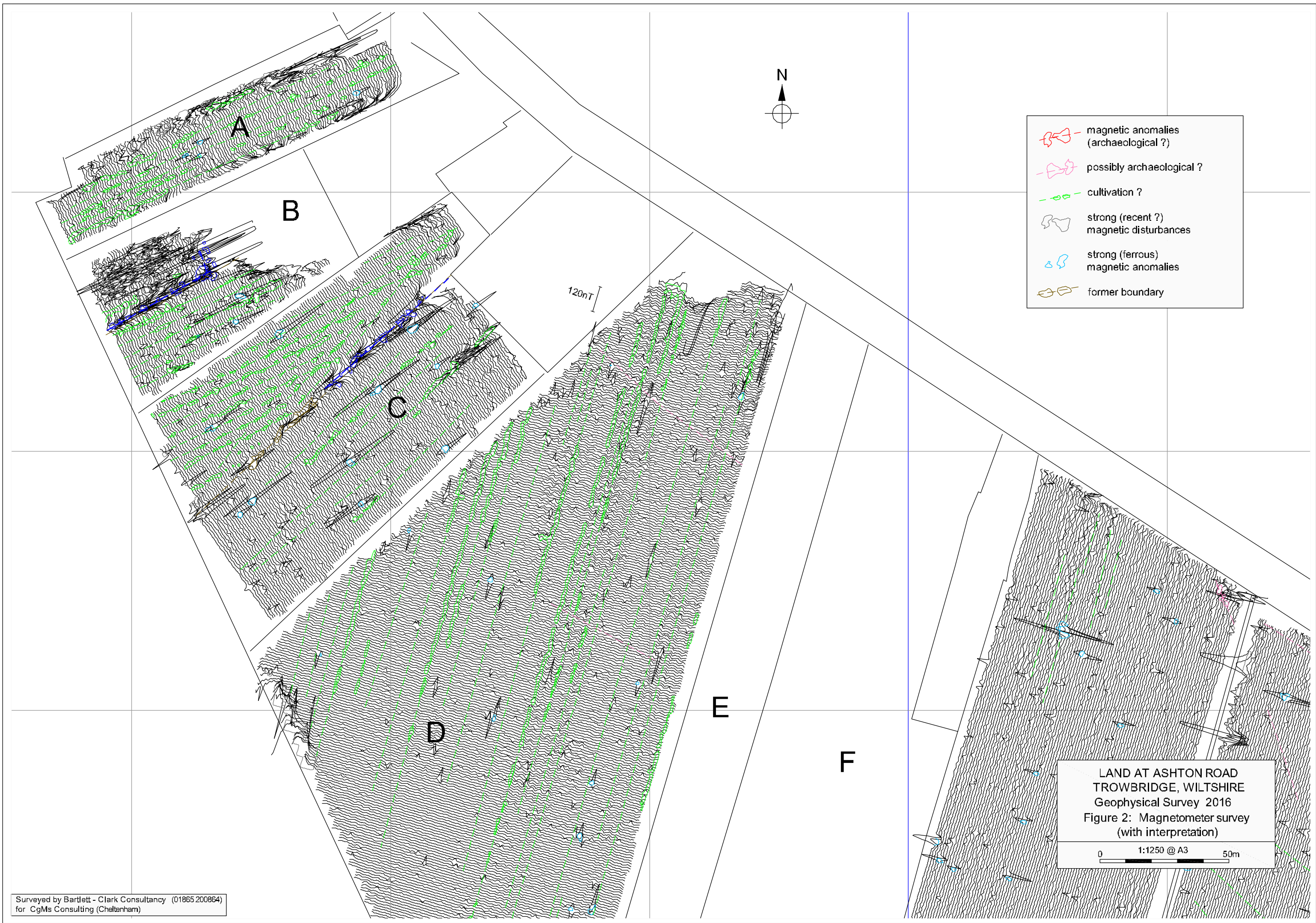
- [1] *Land at Ashton Road, Trowbridge, Wiltshire. Archaeological Desk Based Assessment.* CgMs reference WB/SJ/19533. Issue date June 2015.
- [2] *Land at Ashton Road, Trowbridge, Wiltshire: Written Scheme of Investigation for Archaeological Geophysical Survey 2016.* Document submitted to CgMs by Bartlett Clark Consultancy; 23 February 2016.
- [3] English Heritage 2008 *Geophysical Survey in Archaeological Field Evaluation* (English Heritage: Swindon, 2008); English Heritage Research.











LAND AT ASHTON ROAD  
TROWBRIDGE, WILTSHIRE  
Geophysical Survey 2016  
Figure 1: Magnetometer survey  
(grey scale plot)  
Scale 1:2000 @ A3 100m





-  magnetic anomalies (archaeological ?)
-  possibly archaeological ?
-  cultivation ?
-  strong (recent ?) magnetic disturbances
-  strong (ferrous) magnetic anomalies
-  former boundary

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Figure 2: Magnetometer survey  
(with interpretation)

0 1:1250 @ A3 50m



