

**SITE AT BECKFORD ROAD,  
ALDERTON, GLOUCESTERSHIRE**

**Report on Archaeological Geophysical Survey 2012**

**A. Bartlett**

**Surveyed by:**

**Bartlett-Clark Consultancy**

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## **Site at Beckford Road, Alderton, Gloucestershire**

### **Report on Archaeological Geophysical Survey, 2012**

#### **Introduction**

The geophysical survey described in this report was carried out as part of an archaeological evaluation of a proposed development site at Alderton, Gloucestershire. The survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by the Birmingham office of CgMs Consulting. Fieldwork for the survey was done on 18-19 December 2012.

#### **The Site**

The site is located immediately to the east of Alderton village, approximately five miles east of Tewkesbury. The evaluation area covers part of a currently uncultivated arable field as indicated in red on the location plan inset in figure 1. The area as cross-hatched is centred approximately at NGR SO 996333, and is 4.61 ha in size.

The site is on a bedrock of early Jurassic Lias, and appears to be free of drift deposits. Previous magnetometer surveys on comparable geology have responded well and have provided clear evidence for the presence or otherwise of archaeological features (as we have seen in similar investigations near Winchcombe and Cheltenham).

We have not so far been notified of any previously recorded archaeological sites within the evaluation area or its vicinity, but desk-top work will be undertaken by CgMs as part of the overall evaluation. The geophysical survey therefore represents a prospecting exercise to test for evidence of any previously unknown archaeological sites or features.

#### **Survey procedure**

The method used for the geophysical survey was a full recorded magnetometer survey. Readings were collected using Bartington 1m fluxgate magnetometers, and are plotted at 25cm intervals along transects 1m apart. The results of the survey are shown as a grey scale plot at 1:1250 scale in figure 1, and as a graphical (x-y trace) plot in figure 2. The grey scale and graphical plots display the detected magnetic anomalies in plan and profile respectively. The x-y plots represent the readings after minimal standard pre-processing operations. These include adjustment for irregularities in line spacing caused by heading errors (direction sensitivity in the instrument zero setting), and truncation of extreme values. The grey scale plots show a processed version after additional low pass filtering to control background noise levels.

The magnetometer responds to cut features such as ditches and pits when they are silted with topsoil, which usually has a higher magnetic susceptibility than the underlying natural subsoil. It also detects the thermoremanent magnetism of fired materials, notably

baked clay structures such as kilns or hearths, and so responds preferentially to the presence of ancient settlement or industrial remains. The readings are also strongly affected by ferrous and other debris of recent origin.

The survey was supplemented with background magnetic susceptibility readings to test the soil magnetic properties, as commented on below.

### *Presentation*

An interpretation of the findings is shown superimposed on the graphical plot (figure 2), and is reproduced separately to provide a summary of the findings in figure 3.

Features of potential archaeological significance are marked on figures 2 and 3 in red. Magnetic anomalies of possibly natural or non-archaeological origin are outlined in light brown. Probable recent or non-archaeological disturbances are indicated in a darker brown and ferrous debris in blue. Cultivation effects are shown in green.

### *Survey location*

The survey was located by reference to a temporary site grid which was set out and tied to national grid co-ordinates (to c. 10cm accuracy) by means of a differential GPS system. OS co-ordinates of map locations can be read from the AutoCAD 2008 version of the plans which can be supplied with this report.

## **Results**

The survey has detected various magnetic anomalies and disturbances, some of which may be of archaeological origin or relevance.

The magnetic susceptibility readings taken during the survey confirm, as expected, that soil conditions at the site should be favourable for the magnetic detection of archaeological features. The readings (as shown on the plot inset in figure 3) have a (relatively high) mean value of  $73 \times 10^{-5}$  SI, indicating that cut features containing an earth fill should usually be detectable.

This is seen particularly in the southern half of the survey where there are parallel linear markings representing cultivation effects. Groups of lines are oriented both E-W and N-S (around A and B as labelled on figure 3). This suggests the lines indicate traces of ridge and furrow rather than recent cultivation.

Another potentially significant finding is a group of possible ditched enclosures visible in the grey scale plot in the northern half of the field. These are contained by linear features (indicated by broken red lines) at C and D. The magnetic anomalies defining these features are weaker than the ridge and furrow, in spite of the responsive soil, and so may be partly eroded. The enclosures also do not appear to contain any dense concentrations of internal features. A few magnetic anomalies which could represent silted pits are outlined in red (as at E), but in most cases are not readily distinguishable from the general level of background activity. A possible group of weak features at F is adjacent to strong nearby

recent disturbances (as outlined in brown). These could in part perhaps indicate a pipe outside the survey area along the northern field boundary.

Other features identifiable in the survey include a linear feature (G) parallel to the western field boundary. This could be a cultivation effect not necessarily associated with the ridge and furrow.

The irregular magnetic anomalies at H are too large and too irregular in plan to represent archaeological features. They (and others outlined in light brown) probably represent naturally silted hollows, as are often detected on low lying or waterlogged ground. The feature at J is a silted pit stronger than those at H, but is again larger than would be expected for an archaeological feature and could be natural.

A line of disturbed readings marked by a broken line at K is caused by an overhead power line.

## **Conclusions**

The two main findings from the survey are a group of rectilinear enclosures of a kind which could represent an early field system in the northern half of the field, and remains of ridge and furrow to the south.

The enclosures do not appear to be associated with dense concentrations of strong magnetic anomalies of the kind which would be expected at an ancient settlement site, although the relatively weak response suggests that the ditches and any internal features may have suffered plough erosion. It is possible that features have been detected within the enclosures (perhaps at F), but there are strong recent disturbances nearby, and the evidence remains inconclusive.

## **Report by:**

A. Bartlett BSc MPhil

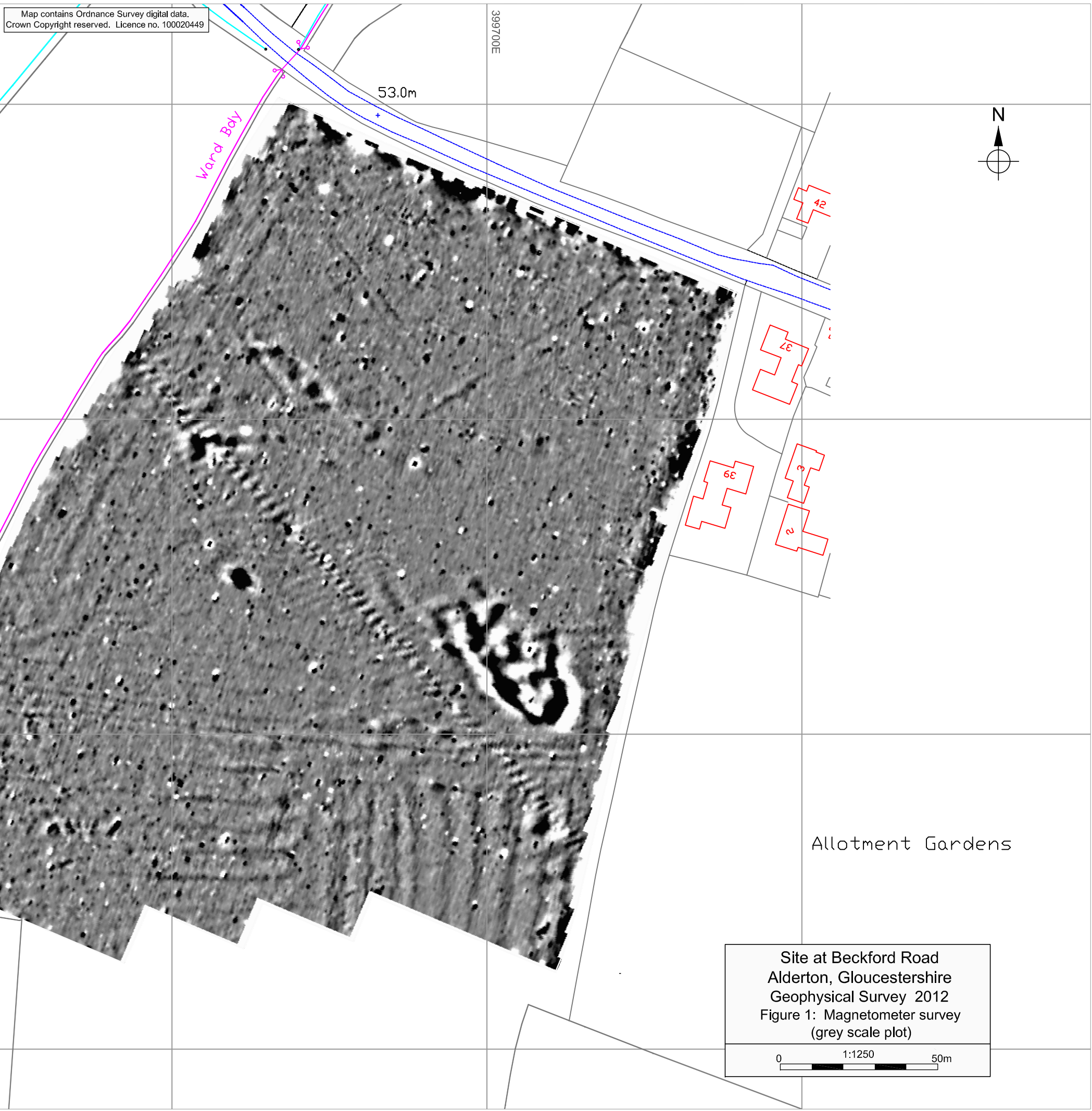
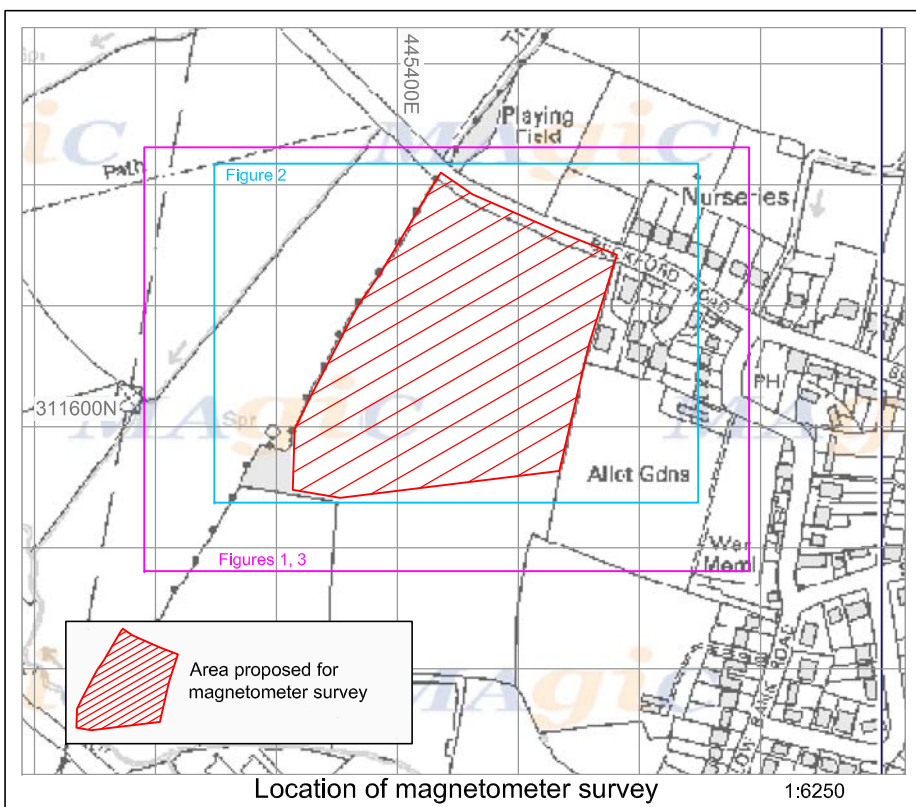
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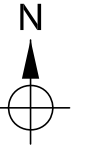
email: [bcc123@ntlworld.com](mailto:bcc123@ntlworld.com)







8 January 2013

The fieldwork for this survey was done by F. Prince and C. Oatley.







-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (recent ?)
-  strong magnetic anomalies (ferrous ?)
-  magnetic anomalies (natural ?)
-  cultivation
-  overhead power line

Spring

1.22m RH

Ward Bay

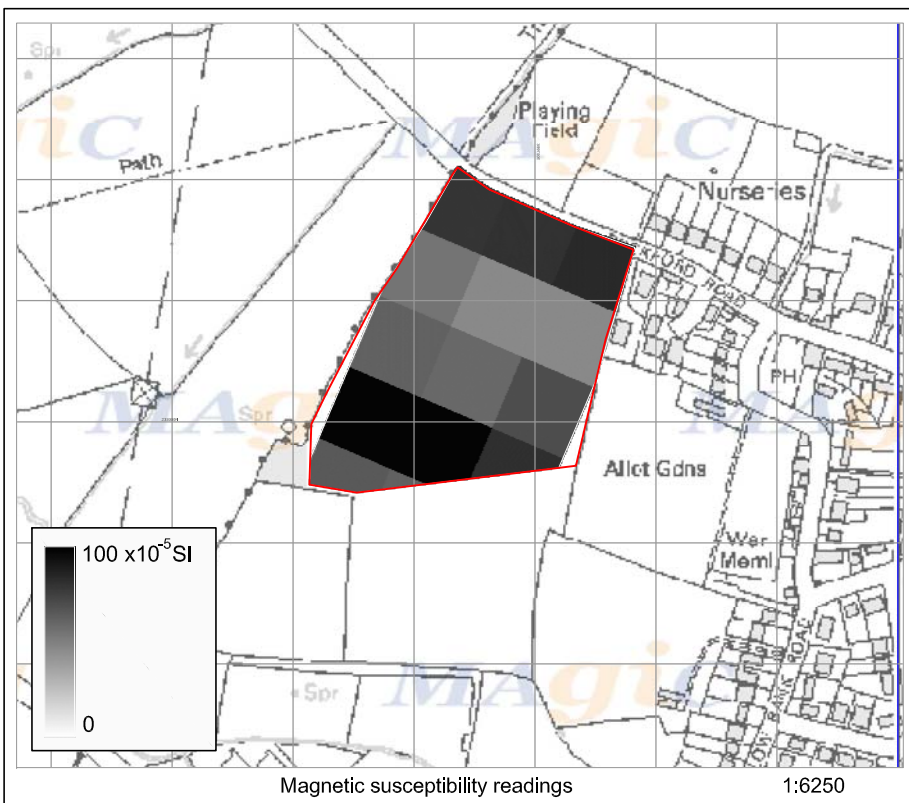
53.0m







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Site at Beckford Road  
Alderton, Gloucestershire  
Geophysical Survey 2012  
Figure 2: Magnetometer survey  
(with interpretation)

0 1:1000 50m





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