

**SITE AT WEST END, RAUNDS,
NORTHAMPTONSHIRE**

Report on Archaeological Geophysical Survey 2011

A.D.H. Bartlett

Surveyed by:

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Introduction

This report describes a geophysical survey which has been undertaken as the initial stage of an archaeological field evaluation of a proposed development site at Raunds, Northamptonshire. The survey was commissioned from Bartlett Clark Consultancy, Specialists in Archaeogeophysics of Oxford, by Phoenix Consulting Archaeology Ltd, and fieldwork was done between 31 October and 3 November 2011.

The evaluation site is an area of farmland amounting in total to 16.4ha, as indicated on figure 1. Some parts of the site are overgrown or obstructed, and so the final coverage achieved by the survey was 14.85 ha. The survey has confirmed the presence and possible extent of an archaeological site previously recorded in the County Historic Environment Record (HER), but has not provided any evidence that substantial concentrations of archaeological remains are likely to be present elsewhere within the area surveyed.

The Site

The following notes are reproduced in part from the Method Statement for the survey, which was supplied to Phoenix Consulting Archaeology by Bartlett Clark Consultancy (BCC) on 18 August 2011.

Location and Topography

The site is centred approximately at NGR 499400, 273800 to the north of Raunds. It extends across parts of five fields on the north side of Brick Kiln Road, and to the east of the A45 and the football club. The greater part of the hatched area (as indicated in red on figure 1) was surveyed, with the exception of overgrown ground in field 3, and areas obstructed by sheds and fences in field 5.

The site is on a bedrock of Oxford Clay, but Oolitic limestone is present within 2-300m to the south and west. Boulder Clay drift deposits are recorded nearby, but may not be present at the site itself. Sites on comparable Jurassic geology (both Oxford Clay and limestone) have responded well in previous magnetometer surveys, including several in and near Raunds which have produced clear archaeological findings. The relatively high magnetic susceptibility readings recorded at the site (mean= 34 SI) also indicate that conditions should be favourable for a magnetometer survey.

Archaeological background

Previous geophysical surveys in the vicinity of this site included one (done by BCC for Phoenix Consulting) at a site some 500m to the east (Northdale End, Raunds: report dated 15 March 2010). This detected possible remains of a medieval settlement. We also (in a further survey done for CgMs Consulting early in 2011) detected strong magnetic activity at a previously identified Roman site adjacent to the A45 about 1km SW from the area now being investigated. A cropmark site representing a probable late prehistoric settlement was also detected in a further recent survey (Ringstead Grange Quarry) about 1km to the west of the present site.

The West End evaluation site has been the subject of a previous Desk Based Assessment (by Pre-Construct Archaeology Ltd in 2011). A plan supplied to us from this report indicates a prehistoric site within the evaluation area (in field 2), but no other archaeological sites or findings within about a 500m radius of the site.

Survey Procedure

Magnetometer readings were collected using Bartington 1m fluxgate gradiometers, and are plotted at 25cm intervals along transects 1m apart. The results of the survey are shown as a grey scale plot at 1:2000 scale (in two overlapping sections) in figures 2 and 3, and as a graphical (x-y trace) plot at 1:1250 scale in figures 4-6. An interpretation of the findings is shown superimposed on the graphical plots (so that the interpretation can be compared with the underlying readings), and is also reproduced separately to provide a summary of the findings in figure 7.

The survey plots show the magnetometer readings after minimal processing which includes adjustment for irregularities in line spacing caused by variations in the instrument zero setting, and slight linear smoothing. The readings in the grey scale plot have additionally been subjected to weak 2D low pass filtering, which is applied to reduce background noise levels.

Colour coding has been used in the interpretation to distinguish different effects. Magnetic anomalies which appear to show possible archaeological characteristics are outlined in red (or indicated by red broken lines). Background geological disturbances are indicated in a light brown, and stronger (perhaps recent) disturbances in a darker brown. Weak linear cultivation effects are in green, and ferrous objects (identifiable as narrow spikes in the graphical plots) are in blue.

The survey grid was set out and located at the required national grid co-ordinates by means of a differential GPS system. OS co-ordinates of map locations can be read from the AutoCAD (.dwg) version of the plans which can be supplied with this report.

The magnetometer survey was supplemented by a background magnetic susceptibility survey with readings taken at 30m intervals using a Bartington MS2 meter and field sensor loop. A plot of the readings is inset in figure 7.

Susceptibility readings can provide a broad indication of previously occupied or disturbed areas in which burning associated with past human occupation has enhanced the magnetic susceptibility of the topsoil, although the readings may be affected by a number of non-archaeological factors, including geology and land use.

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. It is also strongly affected by ferrous and other debris of recent origin.

Results

The findings are described by fields in the order as numbered on figures 1 and 7.

Field 1

The most conspicuous finding in this generally quiet field is a series of parallel north-south cultivation markings, perhaps indicating traces of ridge and furrow. These are faintly visible across the field in the grey scale plot, but can be seen most clearly in the western half of the field (as indicated in green in figure 7). The north-south pattern appears to terminate at a headland (A as labelled on figure 7) near the south of the field (and continues as a weak east-west pattern in field 2).

A cluster of magnetic anomalies is visible (around B) in the centre of the field. Some of them (as seen in the graphical plot, figure 5) could be interpreted as having rounded profiles perhaps indicating they could represent silted pits. Such features could be of archaeological interest, but here they are loosely grouped, and are not very clearly distinguishable from other small background disturbances. [The small background magnetic anomalies (as indicated by light brown outlines) are included in the interpretation because their density indicates varying levels of magnetic activity or disturbance in the different fields across the site.]

The magnetic anomalies at B are not associated with any detectable ditches or enclosures which would confirm that this is an archaeological site. There has probably been some ground disturbance in this part of the field, but it is not necessarily of archaeological interest.

Only recent disturbances were detected in the roadside strip surveyed alongside the A45 to the west of field 1.

Field 2

The survey has detected a distinct group of features probably indicating a late prehistoric settlement. They include a circular feature about 15m in diameter close to the southern field boundary (C). This corresponds to the location identified from the HER, and indicated on the Pre-Construct plan. Two further circular features (hut circles ?) are visible in the survey to the north of C, and there are a few distinct pit-like features nearby. The circles appear to be linked approximately by a curving linear feature, to the west of which some additional (but uncertain) enclosures (D) may be faintly visible in the grey scale plot.

The other finding from field 2 (apart from weak cultivation effects) is a north-south sequence of small magnetic disturbances towards the west of the field (at E). These align with a much stronger strip of magnetic anomalies (F) in field 3, and could perhaps indicate a former hedge line or boundary (as indicated by a broken line).

Field 3

There is considerably more magnetic activity in fields 3 and 5 than in 1, 2, 4, but this is likely to be an effect of more intensive modern land use (which could also have given rise to the raised magnetic susceptibility values seen in field 3).

The disturbed strip (F) links the corner of the adjacent allotments to the possible former boundary (E) in field 2. It could again therefore indicate a former boundary. The strength of magnetic activity could mean that F represents a ditch filled with imported debris, or a hardcore surface to a former track.

Other groups of magnetic disturbances (G, H) include strong magnetic anomalies suggesting the presence of ferrous or thermoremanent debris (bricks, etc). The level of magnetic activity is perhaps not, however, great enough to suggest this was once an industrial site, as might be suggested by the name of Brick Kiln Road (although the increased magnetic susceptibility in this field would be consistent with such an interpretation). There are more such disturbances in the south west of the field near the road, where concrete foundations and building debris are visible on the ground. Linear cultivation markings are more clearly visible (as a result of the raised magnetic susceptibility values) in field 3 than in field 2, and appear to run in both north-south and east-west directions.

The few possible pit-like features which have been outlined (in red) in the interpretation are widely dispersed, and not clearly distinguishable from background activity.

Fields 4 – 5

There are no identifiable findings (other than recent interference) in field 4, but one possible curving linear feature (J) can be seen in field 5. This could perhaps be of archaeological relevance, given the presence of archaeological findings in field 2, but it is less well defined than some of the features in field 2.

Only small areas could be surveyed in the obstructed southern part of field 5. The results are strongly disturbed, as is usual near modern activity.

Conclusions

The survey has detected a group of well-defined archaeological features extending to the north from the previously identified prehistoric site in field 2. It is possible that other enclosures may be present in addition to the distinct circular features detected in the survey, but those indicated at D are only faintly visible in the survey plots.

Other findings include a cluster of disturbances possibly including some pit-like features (at B) in field 1, but these are not necessarily of archaeological origin. Disturbances probably indicating former field boundaries (E, F) were detected in fields 2 and 3. The increased level of magnetic activity in field 3 suggests it could once have been used for allotments (as in the adjacent field), or for some similarly intensive purpose. No clearly interpretable archaeological findings can be identified in fields 3 and 5 other than a possible short ditch-like feature (J) in field 5.

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16 November 2011

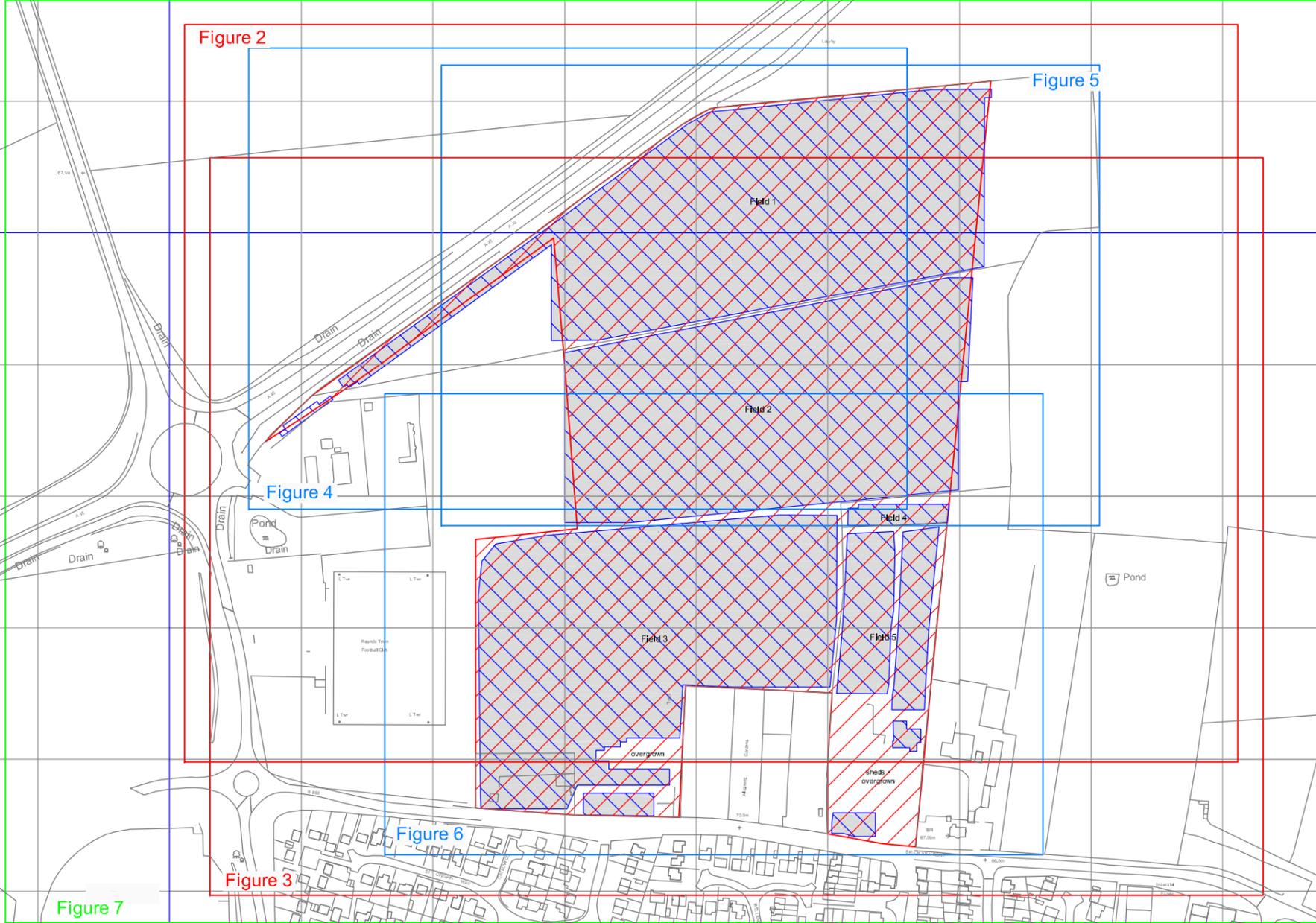
The fieldwork for this project was done by F. Prince and C. Oatley.

499000E

500000E

274000N

00010001

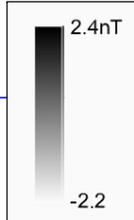
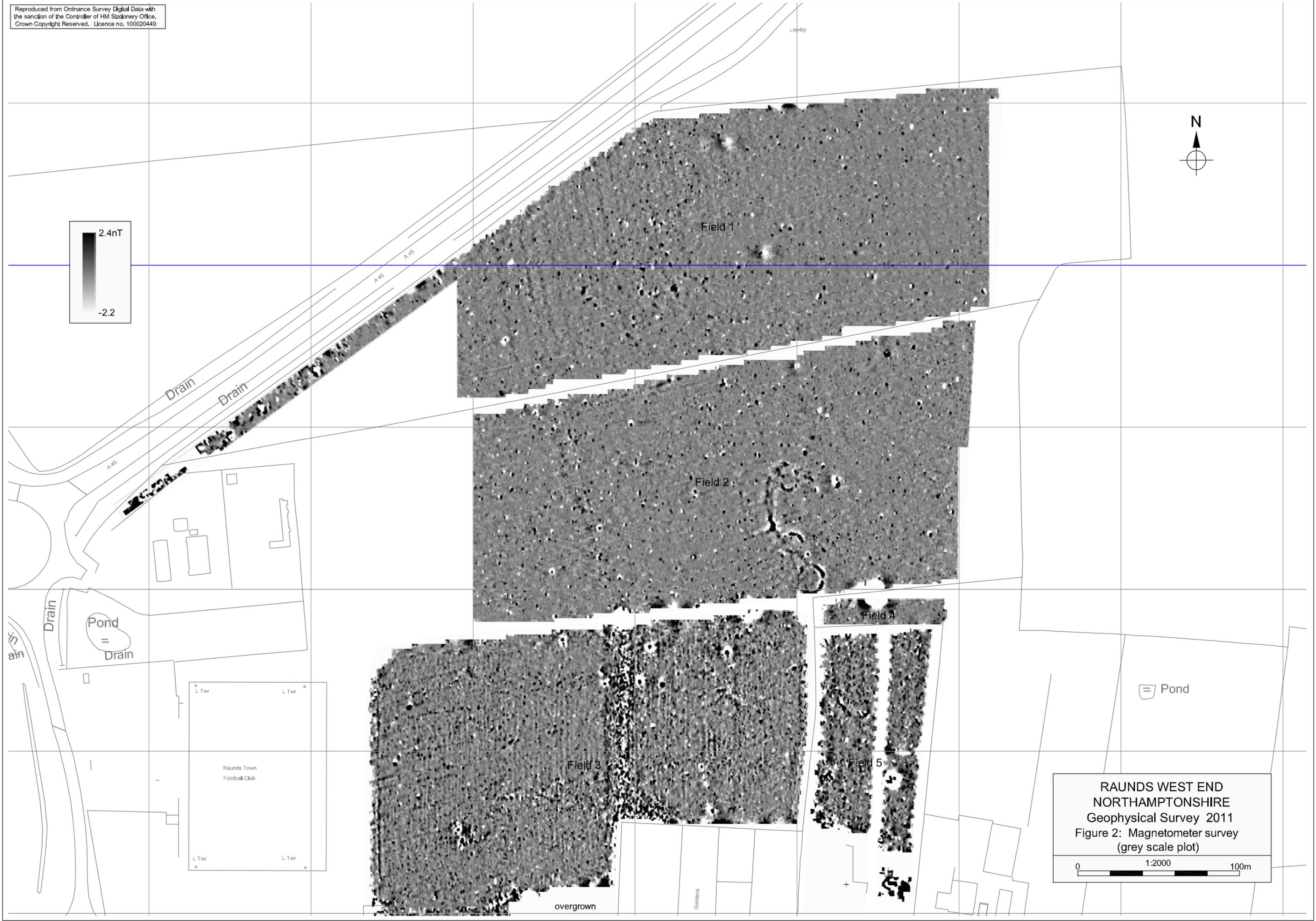


Evaluation area

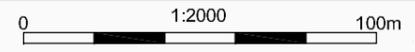
Approximate extent of survey

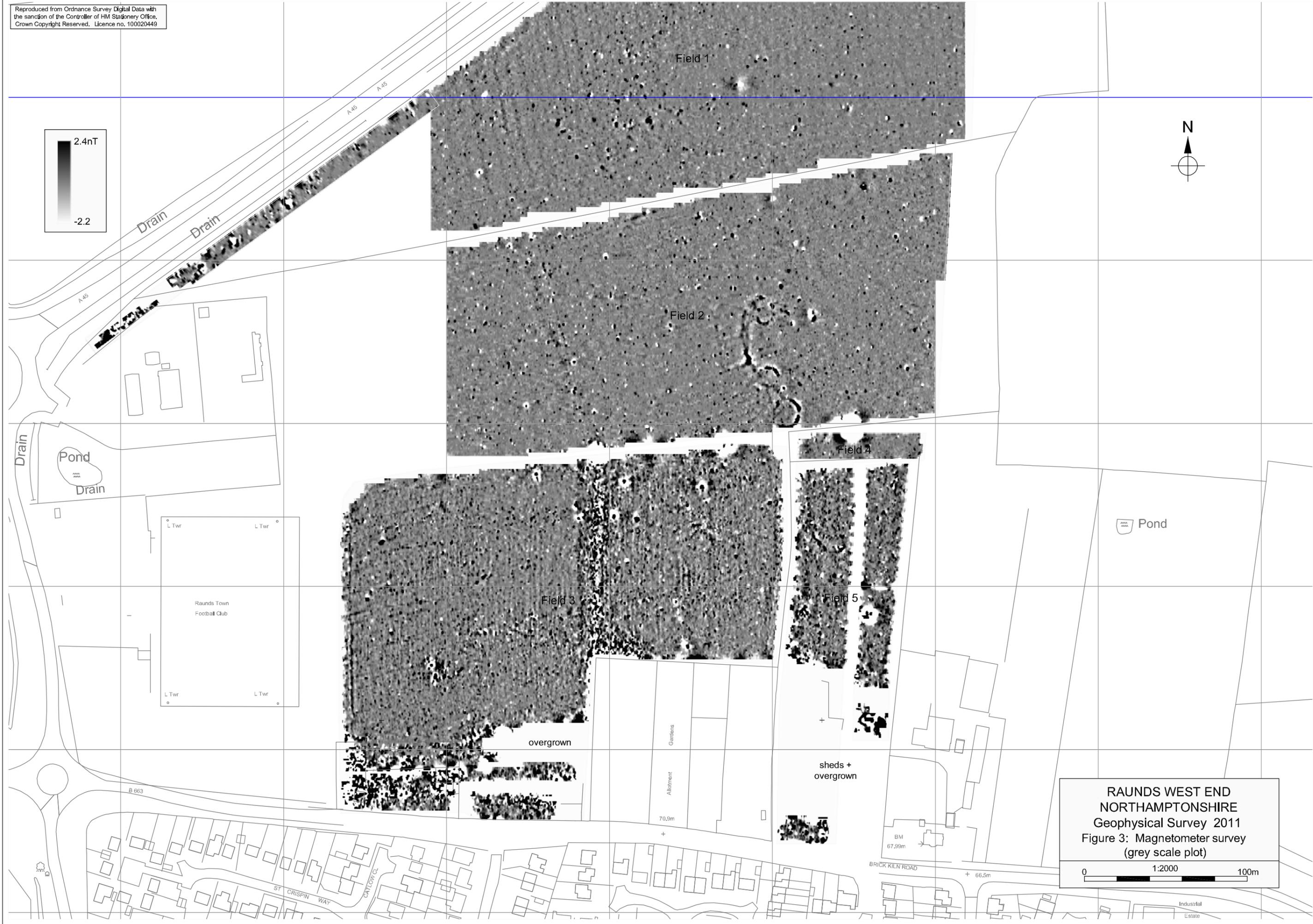
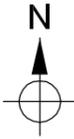
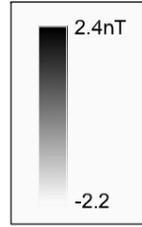
RAUNDS WEST END
Northamptonshire
Geophysical Survey 2011
Figure 1: Location of survey

0 1:4000 200m



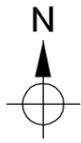
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Figure 2: Magnetometer survey
(grey scale plot)



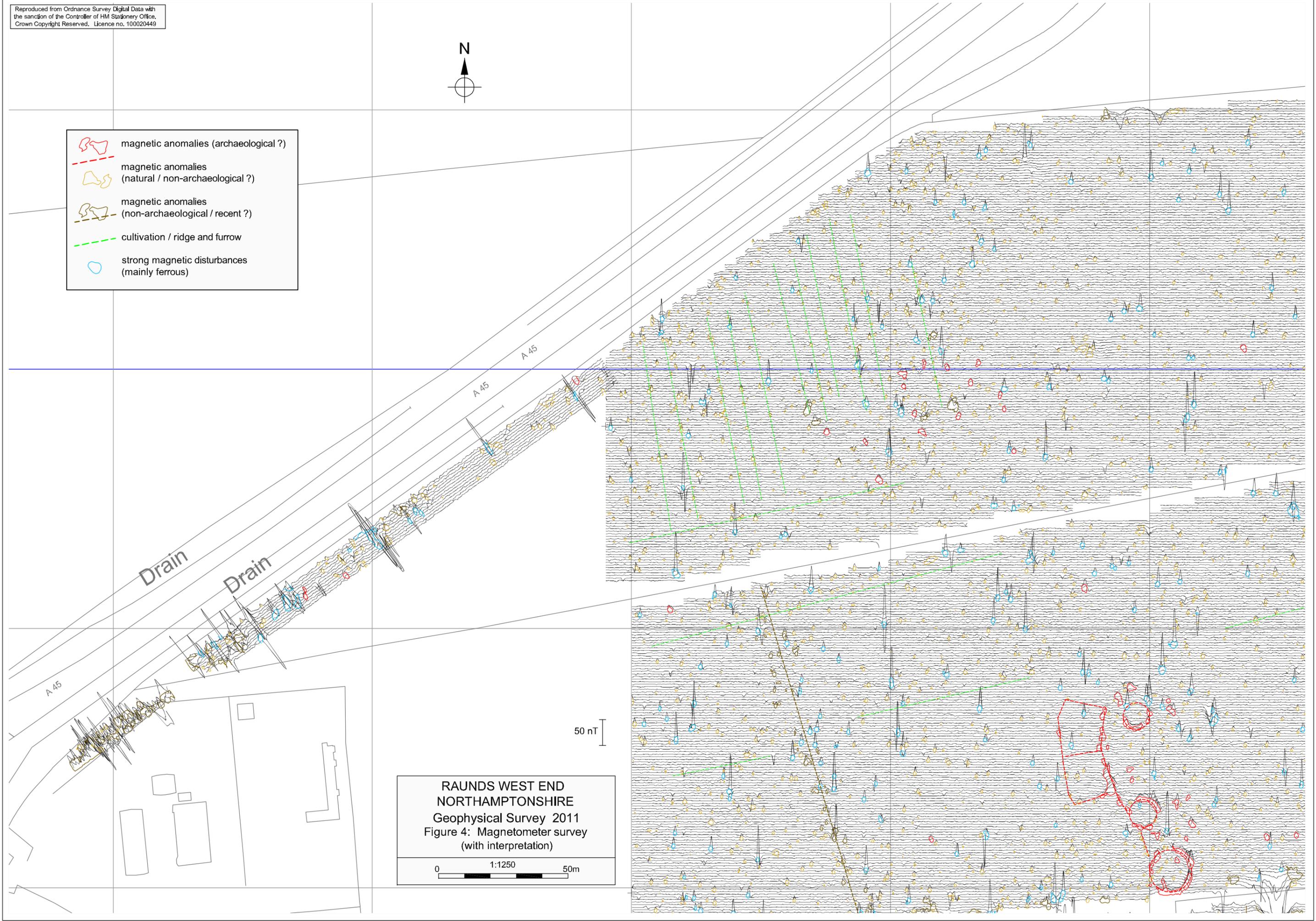


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Figure 3: Magnetometer survey
(grey scale plot)

0 1:2000 100m



-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (natural / non-archaeological ?)
-  magnetic anomalies (non-archaeological / recent ?)
-  cultivation / ridge and furrow
-  strong magnetic disturbances (mainly ferrous)

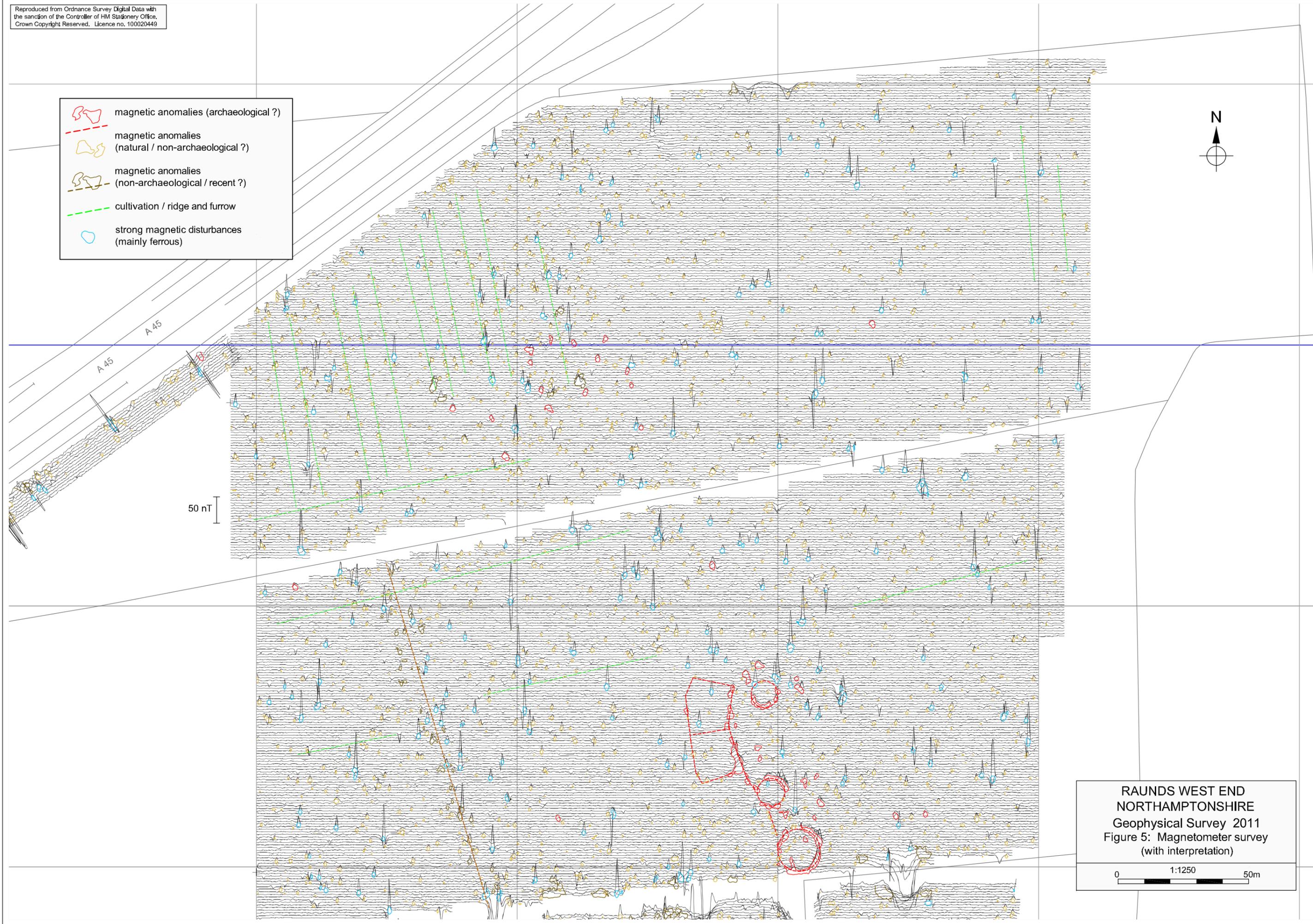


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Figure 4: Magnetometer survey
(with interpretation)

0 1:1250 50m

50 nT

-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (natural / non-archaeological ?)
-  magnetic anomalies (non-archaeological / recent ?)
-  cultivation / ridge and furrow
-  strong magnetic disturbances (mainly ferrous)



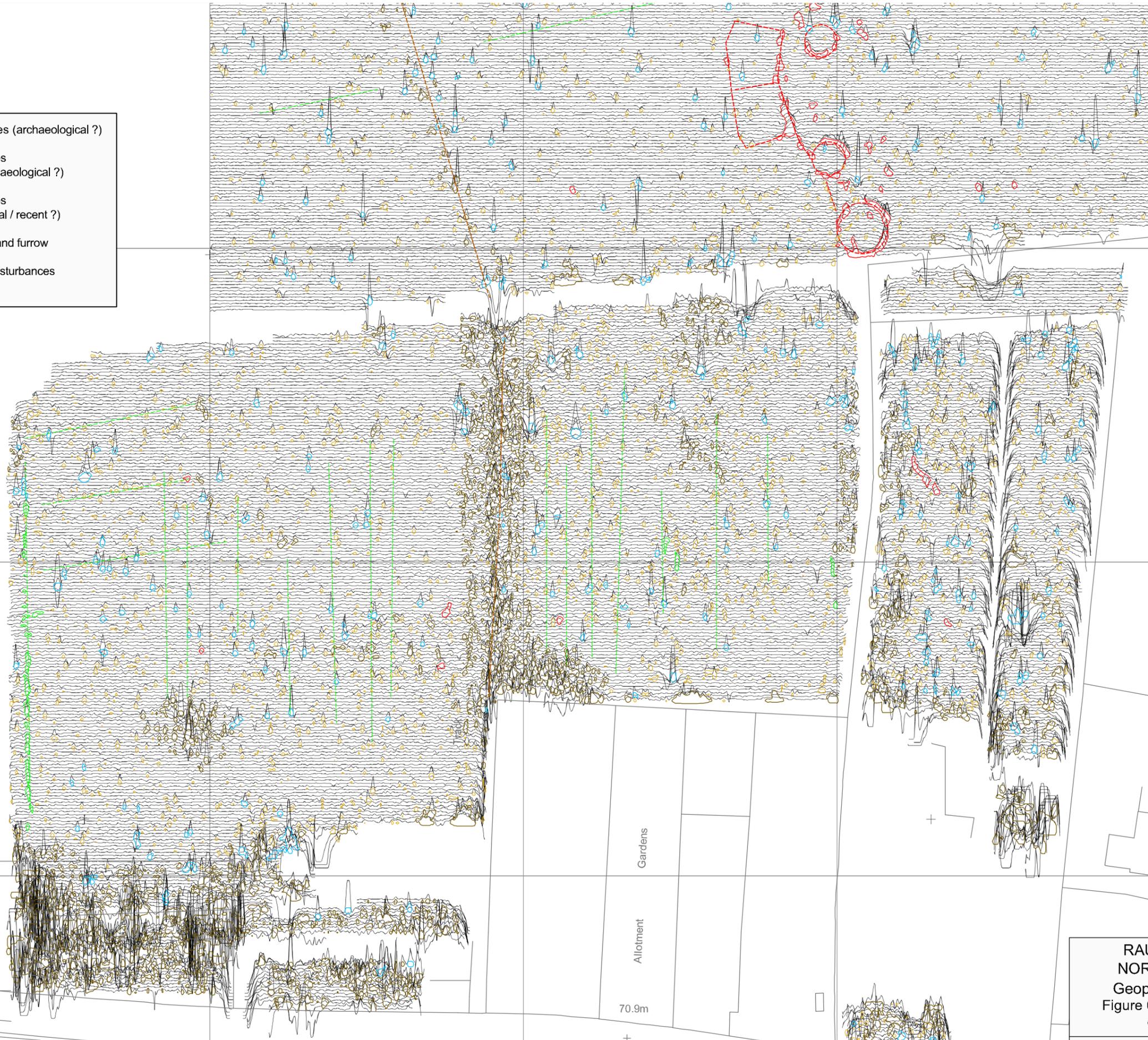
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Geophysical Survey 2011
Figure 5: Magnetometer survey
(with interpretation)





-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (natural / non-archaeological ?)
-  magnetic anomalies (non-archaeological / recent ?)
-  cultivation / ridge and furrow
-  strong magnetic disturbances (mainly ferrous)

L Twr °
n
b
50 nT
L Twr °



Gardens
Allotment
70.9m

RAUNDS WEST END
NORTHAMPTONSHIRE
Geophysical Survey 2011
Figure 6: Magnetometer survey
(with interpretation)

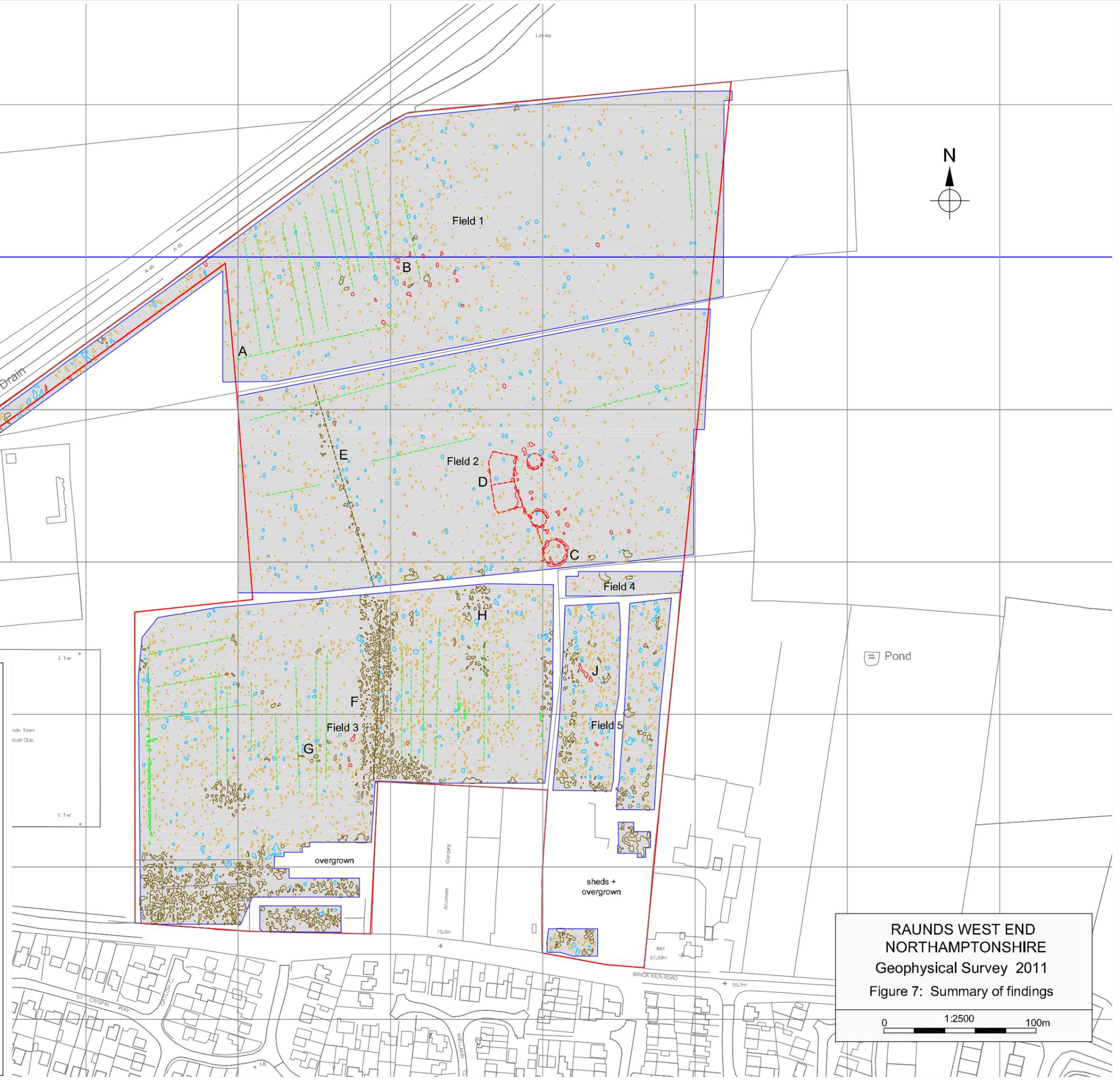
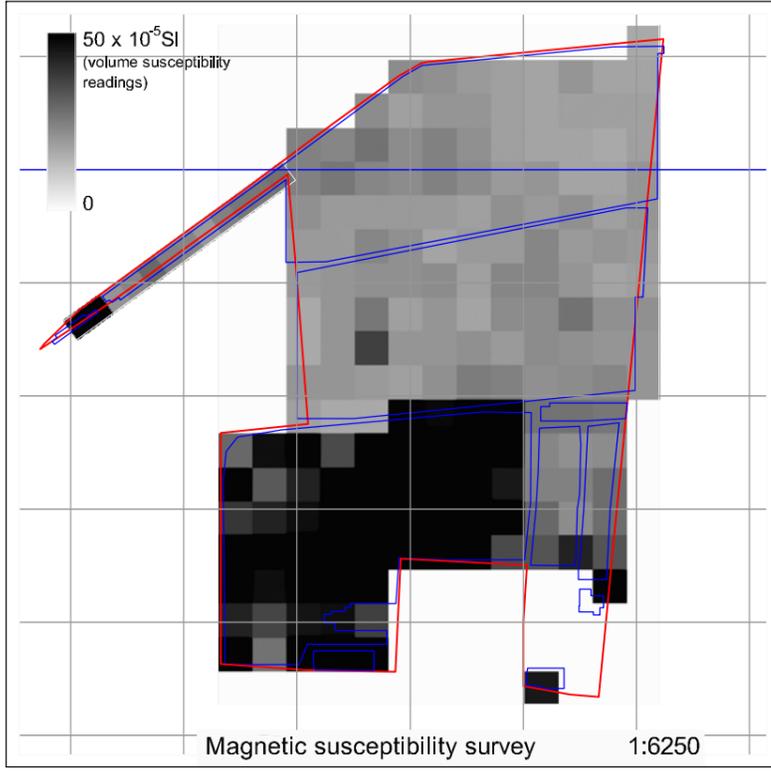
0 1:1250 50m

BRICK KILN ROAD

499000E

274000N

-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (natural / non-archaeological ?)
-  magnetic anomalies (non-archaeological / recent ?)
-  cultivation / ridge and furrow
-  strong magnetic disturbances (mainly ferrous)



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Geophysical Survey 2011
Figure 7: Summary of findings