

**Land at Zouch Manor,
Tidworth, Wiltshire**

Report on Archaeological Geophysical Survey 2011

A.D.H. Bartlett

Surveyed by:

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on behalf of:

Robert Hitchins Limited

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Introduction

This report describes findings from a geophysical survey which is to form part of an archaeological evaluation of a proposed development site in Tidworth, Wiltshire. The survey was commissioned from Bartlett Clark Consultancy (BCC), Specialists in Archaeogeophysics of Oxford, by CgMs Consulting of Cheltenham on behalf of Robert Hitchins Ltd, and its successors in title to the land. Fieldwork for the survey was done on 14-15 November 2011.

The Site

The location and condition of the site are described in the Archaeological Desk Based Assessment for the project (DBA) prepared by CgMs (Ref. SW/12907, July 2011). This report includes a full listing of previously recorded archaeological investigations and findings from a study area centred on the site. Some of the background information and conclusions from this report were previously summarised in the Written Scheme of Investigation (WSI) for this project, which was submitted to CgMs by BCC on 8 November 2011. The following notes are reproduced in part from the WSI.

Location and Topography

The total extent of the study site is indicated (by red cross hatching) on the location plan inset in figure 1. The site is an area of rough grassland divided into a number of paddocks. It amounts in total to c. 3.8ha, and is centred approximately at NGR SU 234492. It was mentioned in the WSI that various buildings and structures within the study area, as well as some of the more wooded or overgrown parts of the site, would be excluded from the survey. The structures include the works to the NW of Zouch Manor, which consists of sheds around a paved yard, and garages in the paddock to the west. Other obstructions encountered at the site include rubbish heaps, excavations and areas of overgrown shrubbery and woodland (as noted in red on the figures). Magnetometer data was collected wherever possible from the remainder of the site, giving coverage of 2.2ha.

The site is located on an east facing slope which rises to the west by about 10m from the River Bourne, which runs N-S through the eastern part of the site (at 109m AOD). River terrace deposits may be present within the Bourne floodplain at the east of the site, but the remainder of the evaluation area is on a bedrock of Cretaceous chalk, and free of drift deposits. Sites on chalk soils (and also on river terrace gravels) usually respond well in magnetometer surveys, and archaeological features are often clearly detectable.

Archaeological Background

It is concluded in the DBA that the site has a low potential for remains of prehistoric or Roman date, and low to moderate potential for findings from the Saxon or early Medieval periods. It is mentioned that Tidworth is near to the crossroads of two Roman roads, and could therefore be the site of a settlement, but there is no evidence if so that it was located in North Tidworth.

An excavation 250m to the east of the present site in 1999 identified Saxon dated pits, suggesting a nearby farmstead. Later Medieval settlement would be centred on the church a short distance to the south of the study area, but could have extended north into the vicinity of Zouch Manor, which was first recorded in the 11th C.

It is mentioned in the DBA that the original manor house perhaps occupied the same site as the present (mid 19thC) house, although the question remains open. A map of 1810, and the tithe map of 1846 (inset in figure 3) both show buildings to the east of the present house. The original manor (NMR 1538952) existed in 1086, but it was rebuilt (not necessarily at the same location) in 1547-9 and 1773. Traces of an early stone or timber structure would not necessarily respond strongly to a magnetometer survey, although deposits of brick and tile from a later building should be detectable. Other associated disturbances which may indicate the presence of a settlement site (pits, boundaries, enclosures, debris) might also be detectable in the survey.

Survey Procedure

The site was investigated by means of a recorded magnetometer survey, supplemented by magnetic susceptibility testing. Magnetometer 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 at 1:1000 scale in figure 2. An interpretation of the findings is shown superimposed on the graphical plot (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 3.

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.

Colour coding has been used in the interpretation to distinguish different effects. Magnetic anomalies which show characteristics possibly to be expected from archaeological features are outlined in red, and stronger (probably recent) disturbances are shown in brown. Some individual magnetic anomalies which may be caused by ferrous objects are marked 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 background magnetic susceptibility testing, with measurements taken from soil samples collected at representative locations within the site. 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 readings from less disturbed parts of the site in this case were sufficiently high (23-28 SI) to confirm that soil conditions at the site should be favourable for a magnetometer survey. Readings from magnetically disturbed areas (which are likely to contain structural debris, as noted below) were substantially higher (40-100), as would be expected.

Results

The survey plots (figures 1 and 2) show strong magnetic disturbances caused by pipes, and by relatively modern structural debris, but some further interpretation can be attempted.

Some of the pipes (as indicated in blue on figure 3) can be identified in service plans supplied to us by CgMs. These include a N-S gas main (A as labelled on figure 3), and another pipe alongside at B. The water pipe at C is located a little to the south of the line on the service plan, which also does not appear to indicate the pipe detected at D.

There is otherwise a contrast between the quiet response seen in parts of the site, mainly to the south and east, and the strong magnetic disturbances seen elsewhere. The southern limit of the study area is c. 55m from Holy Trinity church, which was the probable focus of the later medieval settlement at North Tidworth. The DBA mentions excavations to the east of the church in 2006, which recorded 11-14th C occupation features including post holes, gullies, pits and ditches. There is little evidence for a concentration of such features within the survey area, although the possibility cannot be wholly excluded. Small post holes are unlikely to be visible in the survey, but larger pits or ditches should be detectable. Some individual pit-like magnetic anomalies have therefore been outlined (in red) in the interpretation, but they are widely dispersed and not very distinctive.

Two faint linear markings (as seen in the grey scale plot) are also indicated by broken red lines. One of the stronger pit-like features (E) is close to one of these lines, but there is no concentration of findings to suggest a groups of pits or ditched enclosures.

The 1846 tithe map (as inset in figure 3) shows a building which may be the manor house to the east of the present house, and at a location which corresponds to the magnetic anomalies around F. The concentration of magnetic activity here is much less than in the

paddock (G) to the west of the house, where farm buildings were still present (according to DBA maps) in 1936, and in part until 1970. It is possible therefore that the disturbances at F could relate either to the house of 1773 (if that was not on the site of the surviving 19th C house), or to its 11th or 16th C predecessors. It is possible that tile and other magnetic debris associated with the stone-built 16th C house could account for the magnetic activity around F (although this part of the site is also intersected by pipes).

The 1846 map shows an area planted with trees in the southern part of the study area. It is possible, therefore, that some of the weak pit-like disturbances in this part of the site (as noted above) could indicate tress holes, or similar disturbances.

Much of the remaining magnetic activity seen in the survey is unlikely to be of archaeological interest. No buildings are shown in the NE corner of the survey on the DBA maps (although the site of the former almshouses is nearby). The magnetic disturbances here (H) are mainly near boundaries, and so could be recent. The area west of the works in the NW corner of the survey (J) is partly covered with tarmac, and contains rubbish and scrap metal. The paddock in the SW corner is shown as open ground on historic maps, but appears to have been heavily disturbed. Various drain covers are visible, and could account for some of the magnetic activity.

Conclusions

Many of the magnetic disturbances visible in the survey clearly relate to recorded structures (including the farm buildings at G), and other recent disturbances. A possible exception is the rather less concentrated group of magnetic anomalies to the east of the present manor (at E). These correspond to a building as shown on the 1846 map, and so could indicate the site of either the 16th C or 18th C manor house (although the disturbances could also be more recent).

The relatively sparse findings from the southern part of the survey do not suggest the presence of any concentrations of occupation remains which could be associated with the medieval settlement around the church.

Report by:

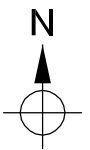
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25 November 2011

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

Map based on topographic survey plan
by Nigel Ruxton Land Surveys



149300N

149200N

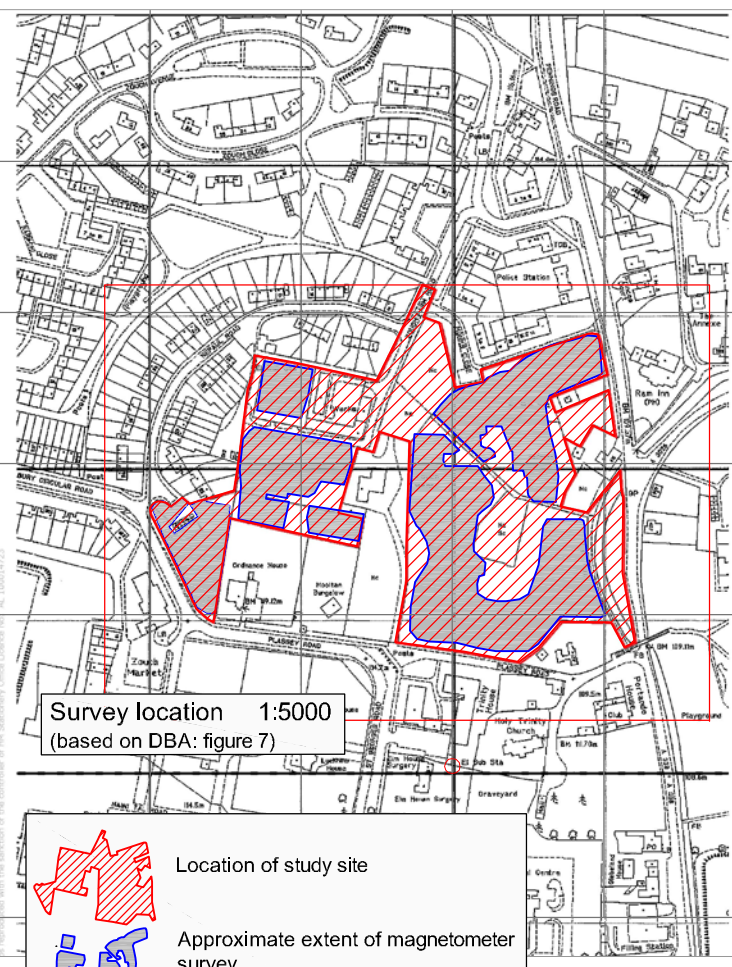
149100N

423300E



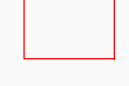
423300E

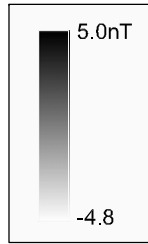
423400E

423500E

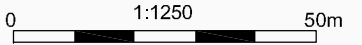


Survey location 1:5000
(based on DBA: figure 7)

-  Location of study site
-  Approximate extent of magnetometer survey
-  Location of 1:1000 figures 2 & 3



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Figure 1: Magnetometer survey
(greyscale plot) with location plan



423200E

Map based on topographic survey plan
by Nigel Ruxton Land Surveys






423300E

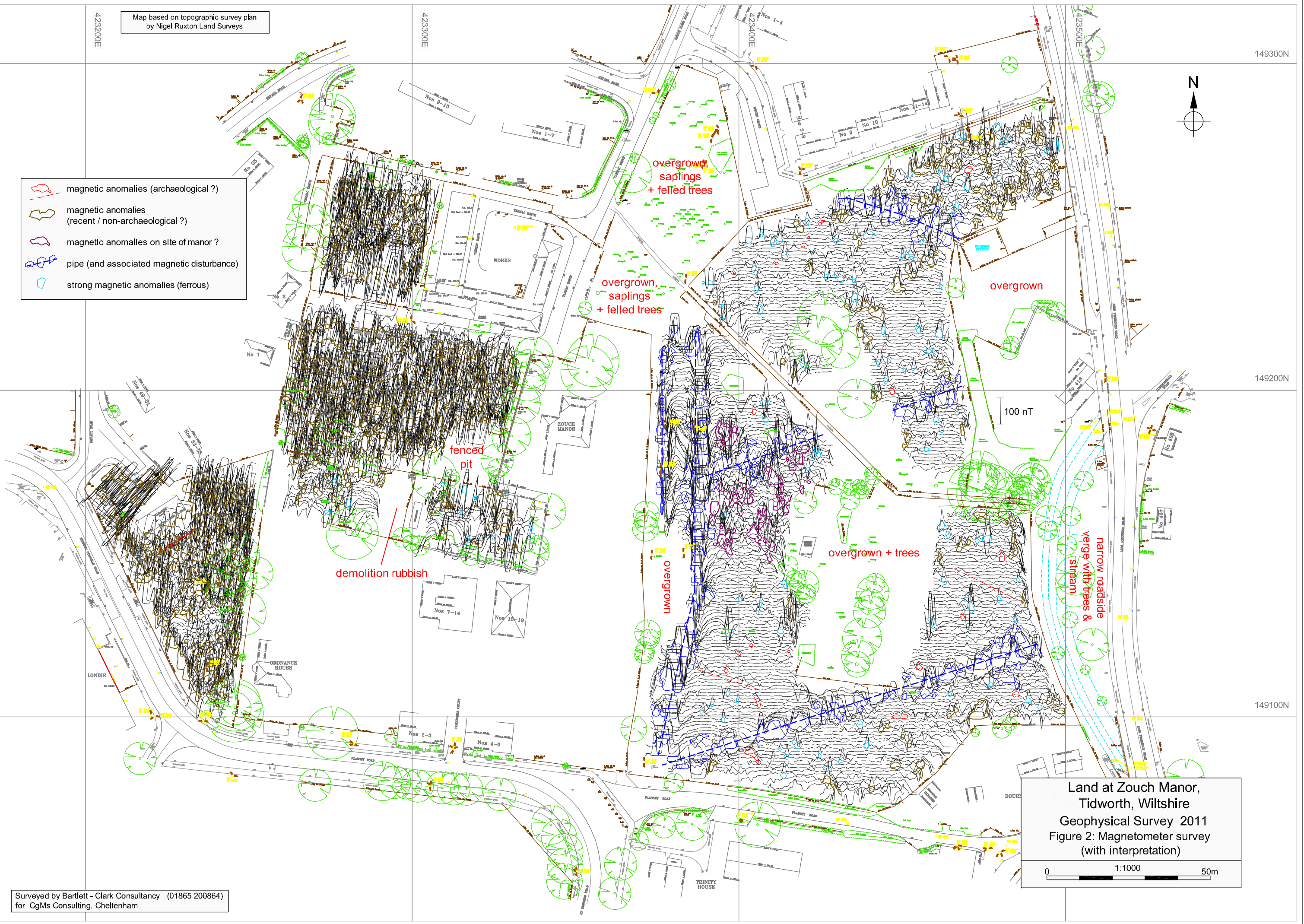
423400E

423500E

149300N



-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (recent / non-archaeological ?)
-  magnetic anomalies on site of manor ?
-  pipe (and associated magnetic disturbance)
-  strong magnetic anomalies (ferrous)



149200N

100 nT

demolition rubbish

fenced pit

overgrown

overgrown + trees

overgrown

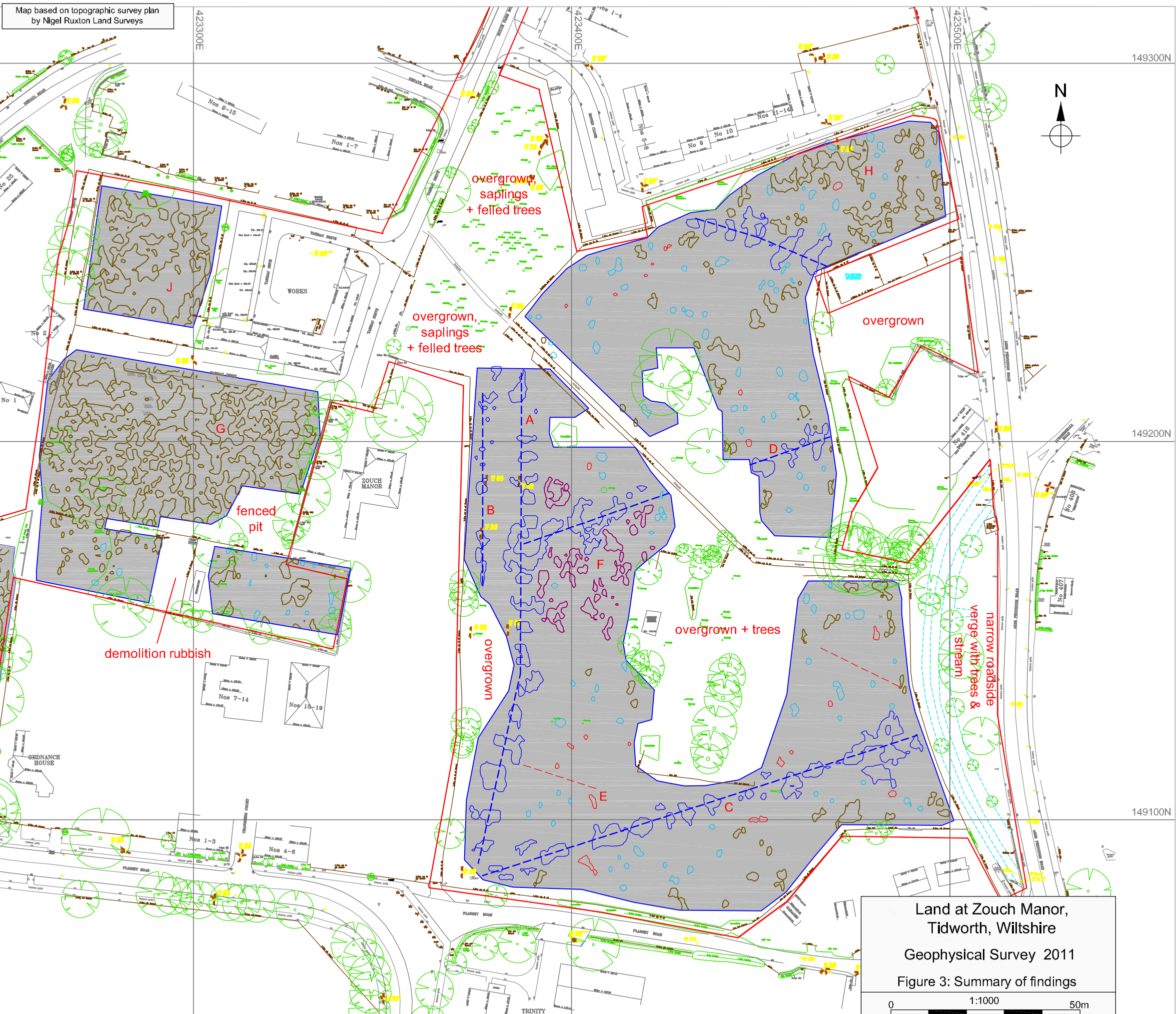
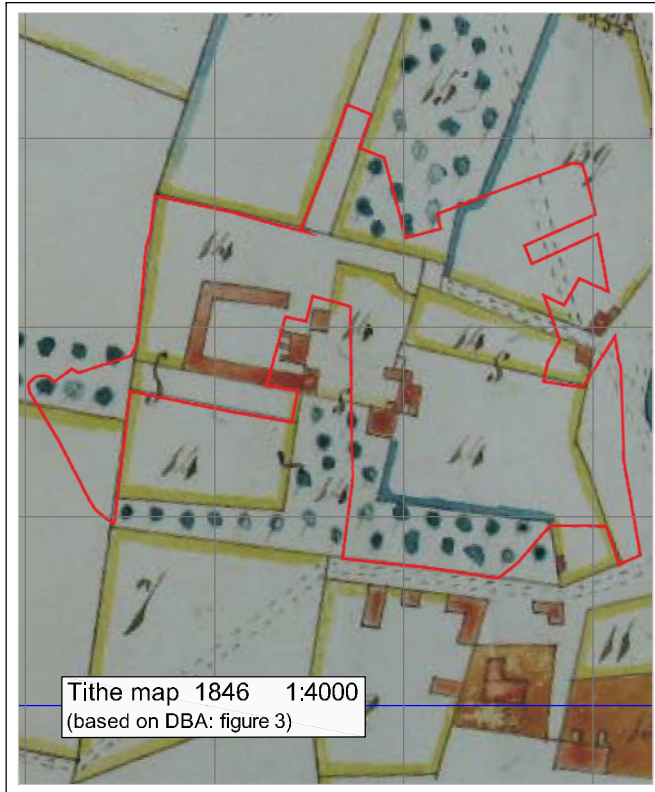
narrow roadside
verge with trees &
stream

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Figure 2: Magnetometer survey
(with interpretation)






0 1:1000 50m

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for CgMs Consulting, Cheltenham

149100N



Map based on topographic survey plan
by Nigel Ruxton Land Surveys

-  magnetic anomalies (archaeological ?)
-  magnetic anomalies (recent / non-archaeological ?)
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Figure 3: Summary of findings

0 1:1000 50m

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