Overcote Farm, Needingworth
Cambridgeshire

Report on Archaeological Geophysical Survey
2012

Surveyed by:

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for:

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on behalf of:

Acorus Rural Property Services

Overcote Farm, Needingworth, Cambridgeshire

Report on Archaeological Geophysical Survey 2012

Introduction

This report describes the findings from a geophysical survey which was carried out as part of an archaeological field assessment of a proposed development site at Overcote Farm near Needingworth, Cambridgeshire.

The survey was commissioned from Bartlett-Clark Consultancy (BCC), Specialists in Archaeogeophysics of Oxford, by the Cambridge Archaeological Unit (CAU). Fieldwork for the survey was done on 1 May 2012. A plot showing the survey findings was previously supplied to CAU, and is now included for the record in this report (figure 1).

The Site

The site has been the subject of an Archaeological Desk Based Assessment (DBA) by CAU [1]. The DBA report lists previously recorded archaeological sites and findings in the vicinity of the evaluation site. The following notes are summarised in part from this report.

Geology and topography

The survey was commissioned in connection with proposals to redevelop and extend the existing poultry farm at Overcote Farm (known also as White Bridge Farm), which is situated (at NGR TL 349717) off Overcote Lane to the east of the village of Needingworth, about 2.5km east of St Ives. The total area covered by the survey amounts to 1.7ha.

The proposals include the reconstruction of the existing poultry sheds, and an extension to the south into adjacent arable land.

The site is located at the junction between the third terrace river gravels and alluvium. Magnetic susceptibility readings taken during the survey (as indicated on the plot inset in figure 3) have a mean value of 27 SI. This relatively high value is consistent with the presence of a gravel subsoil within the survey area, and suggests that soil conditions at the site should responsive to a magnetometer survey.

Archaeological background

The site is located immediately to the SW of Needingworth and Overcote quarries, where there have been numerous previous archaeological investigations. Findings from the quarries include major Neolithic pit clusters, Bronze Age field systems, and various excavated ring ditches or

barrows, as well as settlement remains of similar date together with pits and enclosures. A boundary defining one of the field systems (IV, as labelled in figure 4 in the DBA) intersects the survey area if projected to the west, as indicated in figure 3 in this report.

Cropmarks, including a ring ditch, have been identified to the SW as well as to the NE of the present site, but none are recorded within the survey area itself. There have also been Roman finds from the field to the west, although not enough to indicate a major settlement. It is likely that the site was open farmland during Saxon and medieval periods. It is therefore concluded in the DBA that the site is in a favourable location for prehistoric settlement and ritual activity of the kind identified nearby, but is less likely to contain remains from later periods.

Survey Procedure

The methods used for this geophysical investigation were recorded magnetometer surveying, supplemented by background magnetic susceptibility testing.

Magnetometer survey

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 a grey scale plot (figure 1), and as a graphical (x-y trace) plot at 1:1250 scale in figure 2. Inclusion of these alternative presentations allows the detected magnetic anomalies to be examined in plan and profile respectively. An interpretation of the findings is shown superimposed on figure 2 (which permits the interpreted outlines to be compared with the underlying data), and is reproduced separately to provide a summary of the findings (figure 3).

The survey plots show the magnetometer readings after standard treatments which include adjustment for irregularities in line spacing caused by variations in the instrument zero setting, and slight linear smoothing. Additional 2D low pass filtering has been applied to the grey scale plot to reduce background noise levels.

Coloured outlines have been used in the interpretation to distinguish different effects. Magnetic anomalies of possibly archaeological origin are outlined in red. Features of uncertain, but probably natural, origin are shown in a light brown. Strong magnetic anomalies which are likely to be of recent origin are shown in dark brown. Strong magnetic anomalies which appear to represent iron objects are in blue.

Magnetic susceptibility tests

The magnetometer survey was supplemented by a background magnetic susceptibility survey based on readings taken at 30m intervals with a Bartington MS2 meter. A background survey of the kind done here is undertaken to test the (largely) geologically determined magnetic properties of the soil. This information provides an indication of the strength of magnetic response to be expected from the site, and can be of help when interpreting the magnetometer survey.

Susceptibility readings are shown on a plot inset in figure 3.

Survey location

The survey grid was set out and tied to the OS grid using a differential GPS system (with Omnistar correction to give accuracy of c. 10cm). The plans are therefore geo-referenced, and OS co-ordinates of map locations can be read from the AutoCAD version of the plans which can be supplied with this report.

Results

The survey has produced interpretable data from the greater part of the site. There are limited areas of strong magnetic interference caused by recent disturbances, but only a small number of identifiable findings.

The most distinct feature of potential archaeological origin is a magnetic anomaly which could represent a silted pit about 1.5m in width near the eastern site boundary. This has a characteristic rounded profile as seen in the graphical plot (figure 2), and is indicated in red at A in figure 3. Other possible pit-like features nearby, and elsewhere in the survey, are also outlined in red, but most are smaller and less clearly distinguishable from background magnetic variations. One larger example is at B. An isolated feature at C could be either a pit or a ferrous object buried at depth. These findings do not appear to be associated with detectable ditches, enclosures or other features which would indicate the presence of a settlement site, or any other concentration of archaeological activity. The field system boundary (IV) which is projected (in the DBA) to extend across the site (on the alignment as indicated in grey in figure 3) is not visible in the survey.

Other findings include some broad weak magnetic anomalies of a kind often seen on alluvial ground at D. These are near to the drain at the north end of the site, and the absence of such features elsewhere again suggests that much of the site is free of alluvium.

There are recent disturbances (outlined in brown) immediately to the south of the poultry sheds, as well as various strong ferrous disturbances (blue). It is probable that pipes extend into this area, but there could also be pits containing ferrous debris (as perhaps at E). The reminder of the southern part of the survey appears to be free of identifiable findings (other than the doubtful pit at C).

Conclusions

Conditions at the site appear generally to be favourable for magnetic investigation, but the survey has not produced any conclusive evidence for the presence of clearly identifiable archaeological features. The survey has detected some possible pit-like magnetic anomalies, the most distinct of which is to the east of the survey (at A). There are other possible smaller pit-like features nearby,

but they are near to the modern buildings, and are not associated with any other findings which would indicate the presence of an archaeological site. A possibility remains that these findings could be of archaeological relevance, but that cannot be confirmed on the basis of the survey results alone.

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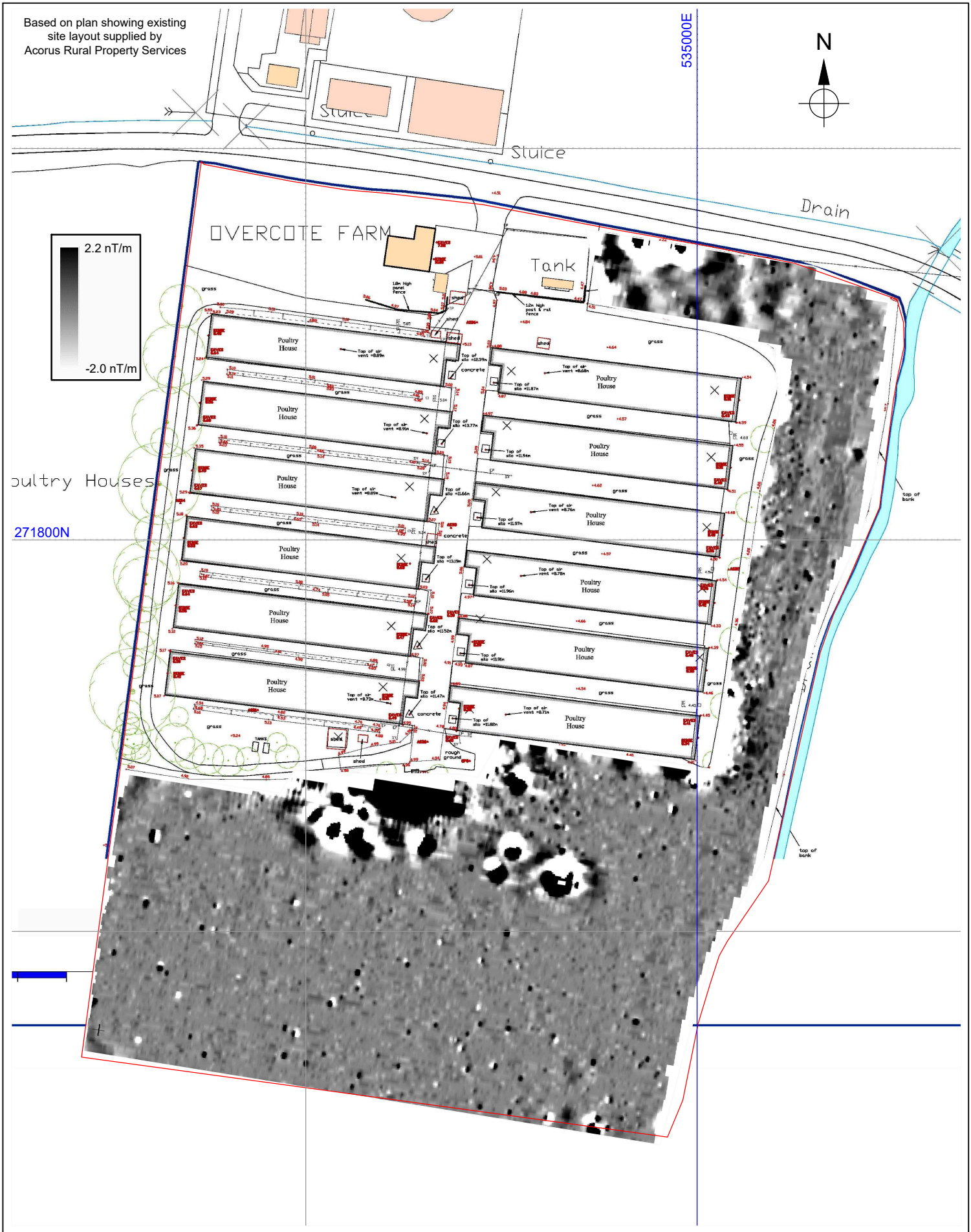
The fieldwork for this project was done by P. Cottrell and F. Prince.

Reference

[1] Overcote and White Bridge Farms, Cambridgeshire: An Archaeological Desk Based Assessment. R. Standring; Cambridge Archaeological Unit, University of Cambridge. Report no. 860; January 2009.



Extent of proposed development

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Figure 1: Magnetometer survey
(grey scale plot)

1:1250

0 50m

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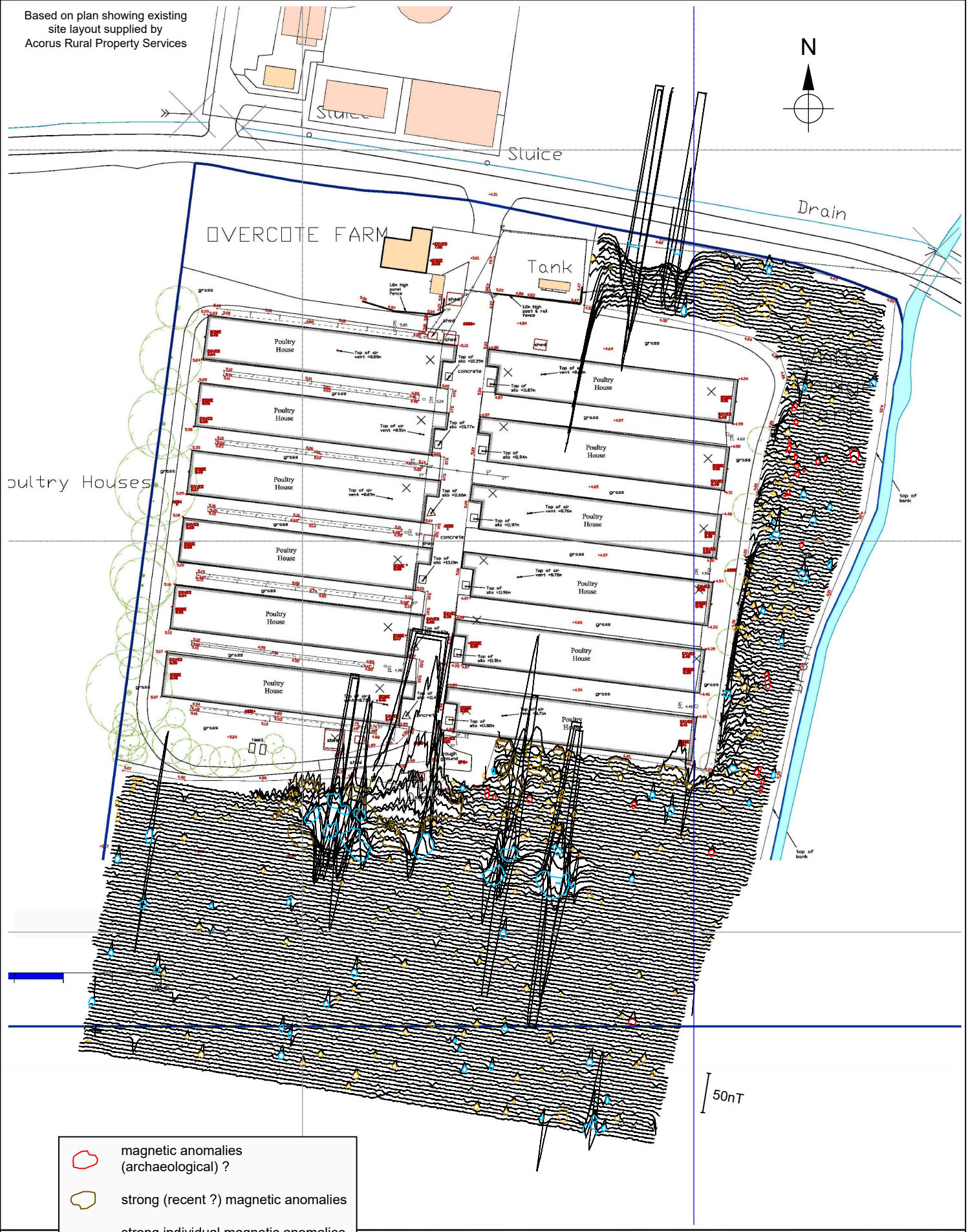

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Figure 2: Magnetometer survey
(with interpretation)

1:1250

0 50m

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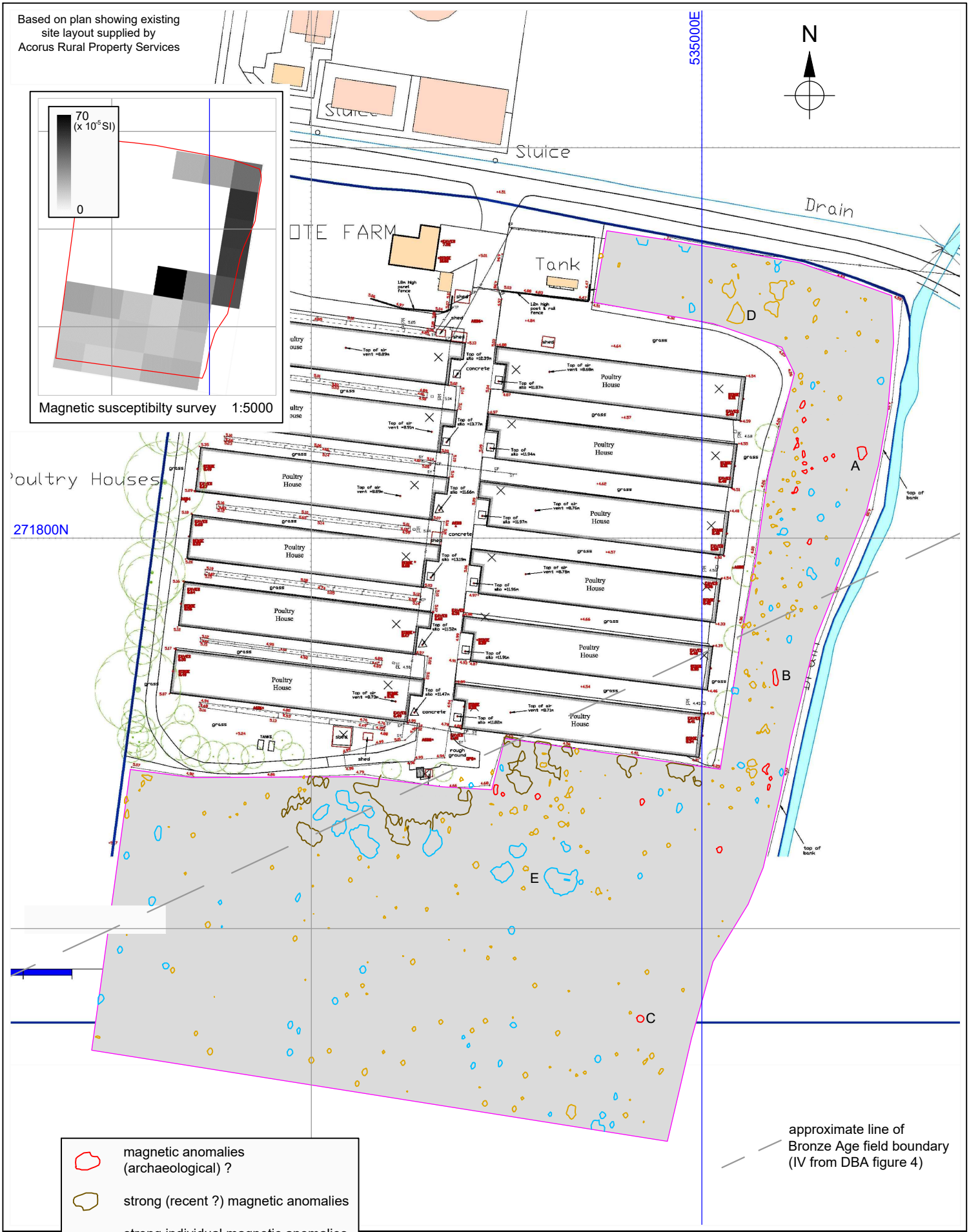

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Figure 3: Magnetometer survey
(summary of findings)

1:1250
0 50m

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