



Northamptonshire Archaeology

Archaeological Geophysical survey of land at Groby Road, Anstey, Leicestershire



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Northamptonshire
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Report 11/40
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OAS/S REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey of land at Groby Road, Anstey, Leicestershire	
Short description	Northamptonshire Archaeology was commissioned by CgMs Consulting Ltd to carry out a magnetometer survey on 36ha of land at Groby Road, Anstey, Leicestershire. Evidence of medieval open field cultivation across the site was identified with the recording of furrows and a headland. Further ditches to the south of Groby Road probably represent post-medieval enclosure boundaries.	
Project type	Geophysical survey	
Site status	None	
Previous work	Desk Based Assessment (Flitcroft 2010)	
Current Land use	Arable and Pasture	
Future work	Unknown	
Monument type/ period	Medieval open field cultivation and headland, post-medieval enclosure ditches	
Significant finds	None	
PROJECT LOCATION		
County	Leicestershire	
Site address	Groby Road, Anstey	
Study area	36ha	
OS Easting & Northing	SK 544 082	
Height OD	65m – 90m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	CgMs Consulting Ltd (M Flitcroft)	
Project Design originator	NA	
Director/Supervisor	John Walford	
Project Manager	Adrian Butler	
Sponsor or funding body	CgMs Consulting Ltd on behalf of Pegasus Planning Group	
PROJECT DATE		
Start date	October 2010	
End date	January 2011	
ARCHIVES	Location	Content
Physical	N/A	
Paper	NA	Site survey records
Digital	NA	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey of land at Groby Road, Anstey, Leicestershire	
Serial title & volume	Northamptonshire Archaeology Reports 11/04	
Author(s)	John Walford and Carol Simmonds	
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Fig 7: Magnetometer Survey Results Fields 6, 7, 8, 9 & 10 1:2,500

Fig 8: Magnetometer Survey Interpretation Fields 6, 7, 8, 9 & 10 1:2,500

**ARCHAEOLOGICAL GEOPHYSICAL SURVEY
OF LAND AT GROBY ROAD,
ANSTEY, LEICESTERSHIRE
OCTOBER – DECEMBER 2010**

ABSTRACT

Northamptonshire Archaeology was commissioned by CgMs Consulting Ltd to carry out a magnetometer survey on 36ha of land at Groby Road, Anstey, Leicestershire. Evidence of medieval open field cultivation across the site was identified with the recording of furrows and a headland. Further ditches to the south of Groby Road probably represent post-medieval enclosure boundaries.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting, on behalf of Pegasus Planning Group, to carry out an archaeological geophysical survey in advance of a proposed development at Groby Road, Anstey, Leicestershire (NGR: SK 544 082; Fig 1). Magnetometer survey was conducted across five arable fields to the south of the road, and five former pasture fields to the north.

2 TOPOGRAPHY AND GEOLOGY

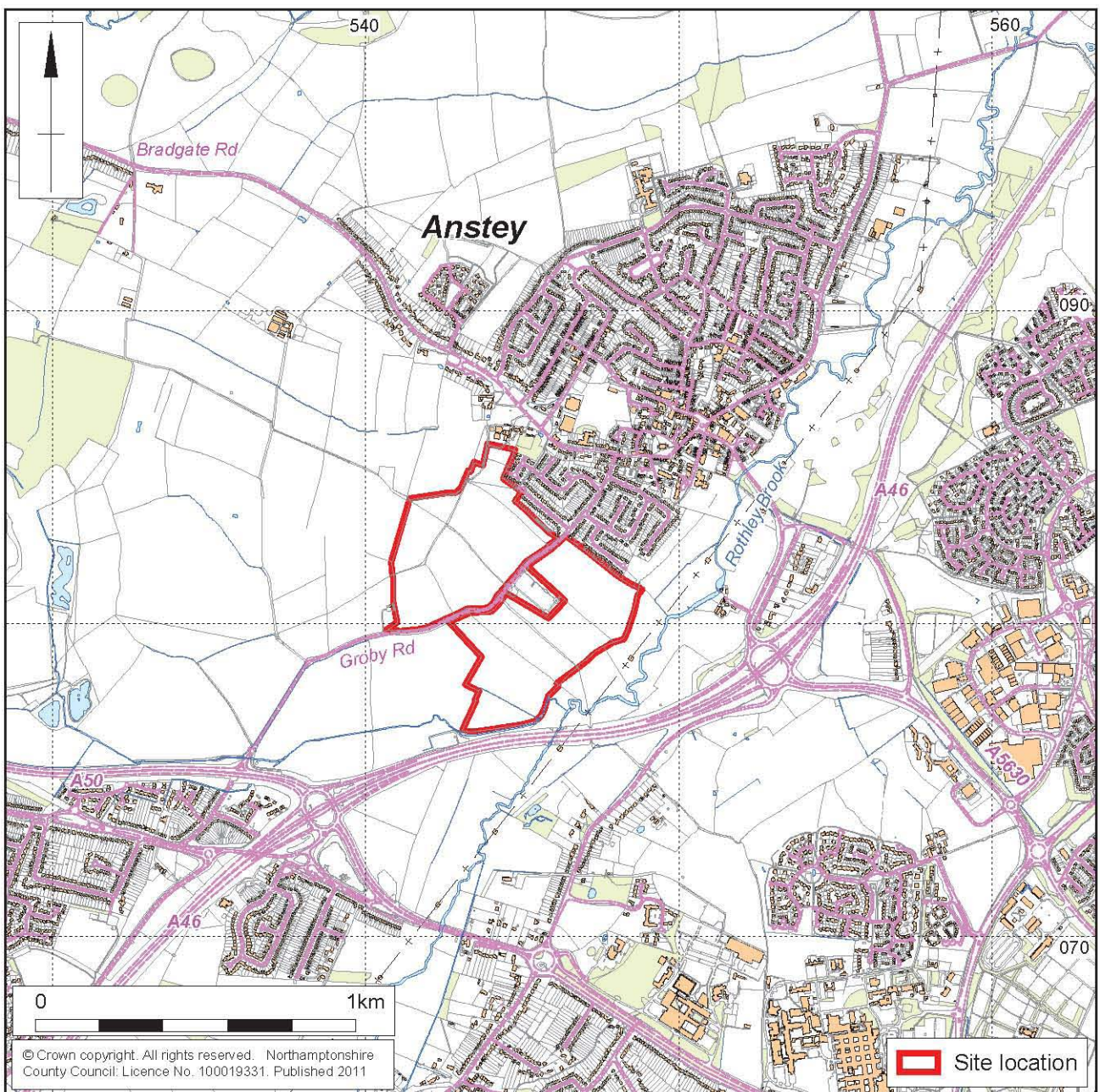
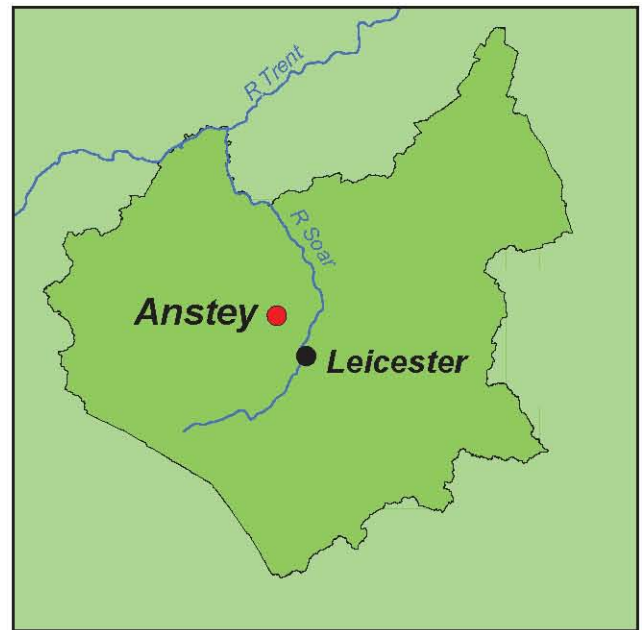
The proposed development site is located on the south-western edge of Anstey. The area surveyed encompasses c36ha of arable and pasture land. It is bounded to the south by Rothley Brook and to the east by fields. The western part of the survey area overlooks fields, and the northern boundary is defined by a modern housing development.

Groby Road bisects the survey area, with Fields 1 to 5 in the northern part of the site and Fields 6 to 10 to the south surrounding Anstey cemetery. The ground descends gently from 90m aOD the north down to the south-east, which is at 65m aOD.

The underlying geology comprises Triassic Mudstone overlain by Oadby and Thrussington Boulder Clay (Flitcroft 2010 and BGS GeoIndex).

3 ARCHAEOLOGICAL BACKGROUND

A desk-based assessment was undertaken by CgMs Consulting Ltd in 2010 (Flitcroft 2010) which collated information from a 1km search radius of the Leicestershire and Rutland Historic Environment Record (LRHER), the National Monuments Record and from historic map sources. It is from this document that the following statements are derived.



Scale 1:20,000

Site location Fig 1

The data from LRHER suggested that there were no known sites or artefacts within the survey area although the area, around Anstey has been occupied from the Mesolithic to the present day. The earliest recorded sites or artefacts were Mesolithic and Neolithic worked flint tools and a Bronze Age hammer-head.

Small Iron Age and Roman sites (MLE 411 & 413) were identified adjacent to each other south of Groby Road, slightly to south-west of the survey area.

4 METHODOLOGY

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

Each of the surveyed fields was divided into a system of 30m grid squares, which were set out by means of a tape measure and optical square. The locations of these grids were tied into the national grid by taking measurements to field corners and other points of detail.

The gradiometers were carried at a brisk but steady pace through each grid square, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per grid.

All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists (EH 2008; Gaffney, Gater and Ovendon 2002).

The survey data was processed using Geoplot 3.00v software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of greyscale plots (± 4 nT black/white) which have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Figs 2, 3, 5 & 6). Interpretative overlays have been produced and are shown in Figures 4, 6 and 8.

5 SURVEY RESULTS

Indications of medieval open field cultivation were present in Fields 1, 2, 3, 4 and 9 (Figs 5 and 6). A broad and diffuse positive linear anomaly orientated south-east to north-west, was located in the eastern part of Field 1. It is not a typical ditch response, and more probably represents a trace of a ploughed-down lynchet or headland. Analysis of R F Hartley's earthwork surveys of Leicestershire (1989) suggests that this does correspond with a headland. The ploughing in Fields 1 and 3 was aligned perpendicular to the headland and the furrows in Fields 2, 4 and 9 were aligned parallel. Notably the headland does not continue from Field 1 into Field 3 (Figs 5 & 6).

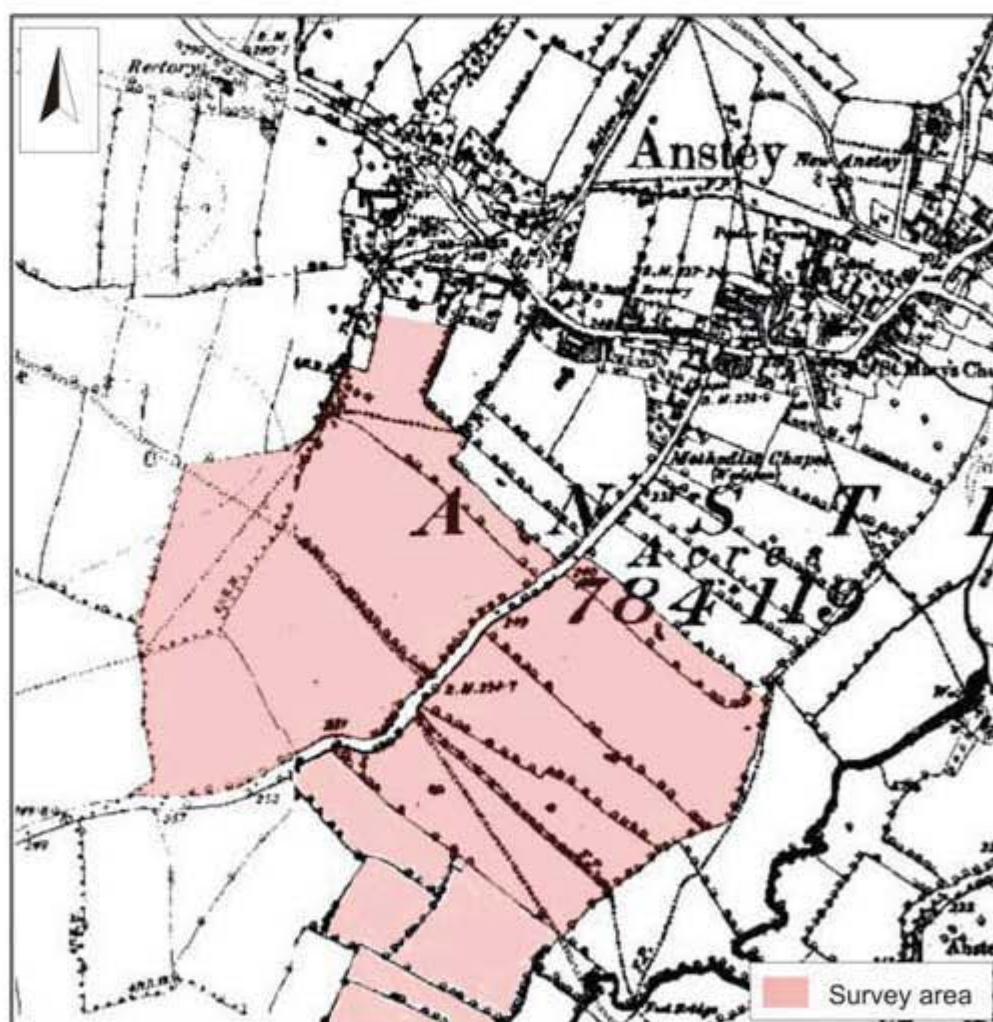
Linear positive anomalies were recorded in Fields 7 and 8 (Figs 7 & 8). They comprised four thin and ill-defined linear anomalies. Two, in Field 7, coincides with former north-west to south-east field boundaries recorded on the first edition Ordnance Survey map (Fig 2). One is similar to a boundary which contains a dog-leg half way along its length

mapped to the south of the modern cemetery (see Fig 2). The other boundary was a short linear to the south of the first. A north-east to south-west aligned linear feature in Field 8 appeared to be part of the same boundary feature as two more on the same orientation in Field 9 and mapped in Fig 2.

A slightly curving positive linear anomaly aligned to the north-west from the edge of existing housing plots (Field 5, Figs 5 & 6) is likely to represent of former, relatively modern boundary.

Other anomalies include an amorphous area of disturbance in Field 8. This feature is probably caused by a spread of brick or tile or possibly burnt material and is notably on the likely corner of the former field boundary in that location. A number of ferrous anomalies also occur throughout the area and may indicate iron debris in the topsoil.

A known water pipeline was mapped in the northern part of the site, orientated north-west to south-east through Fields 3, 4 and 6 (Figs 5 & 6). A second likely utility was identified, aligned parallel with the south-eastern boundary of the survey area (Fields 6, 7, 8, 9 and 10) dividing in to two in Field 10 (Figs 7 & 8).



Excerpt from the first edition Ordnance Survey (1888-9) Fig 2

6 CONCLUSION

Survey of land at Groby Road, Anstey was successful in mapping the ridge and furrow of the medieval open field cultivation patterns to the south-west of Groby. Further ditches indicated post-medieval boundaries. A water pipeline of interest to the client was mapped crossing the north of the survey area.

BIBLIOGRAPHY

Bartington, G, and Chapman, C, 2003 *A high-stability fluxgate magnetic gradiometer for shallow geophysical survey applications*, *Archaeological Prospection*, **11**, 19-34

EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage

Flitcroft, M 2010 *Archaeological Desk Based Assessment, Land at Groby Road, Anstey*, CgMs Consulting Ltd

Gaffney, C, and Gater, J, 2003, *Revealing the Buried Past: Geophysics for Archaeologists*, Tempus Publishing

Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**

Hartley, RF, 1989 *The Medieval Earthworks of Central Leicestershire (Charnwood Borough, City of Leicester, Blaby District, Oadby and Wigston Borough)*; LMARS

Websites

BGS GeoIndex <http://maps.bgs.ac.uk/GeoIndex/default.aspx>

Old Maps <http://www.old-maps.co.uk/index.html>

British History <http://www.british-history.ac.uk/>

All Accessed 05/01/2011



Geophysical Survey Interpretation Key



Archaeology?



Ferrous



Ridge and Furrow direction



Thermoremnant (fired / industrial)



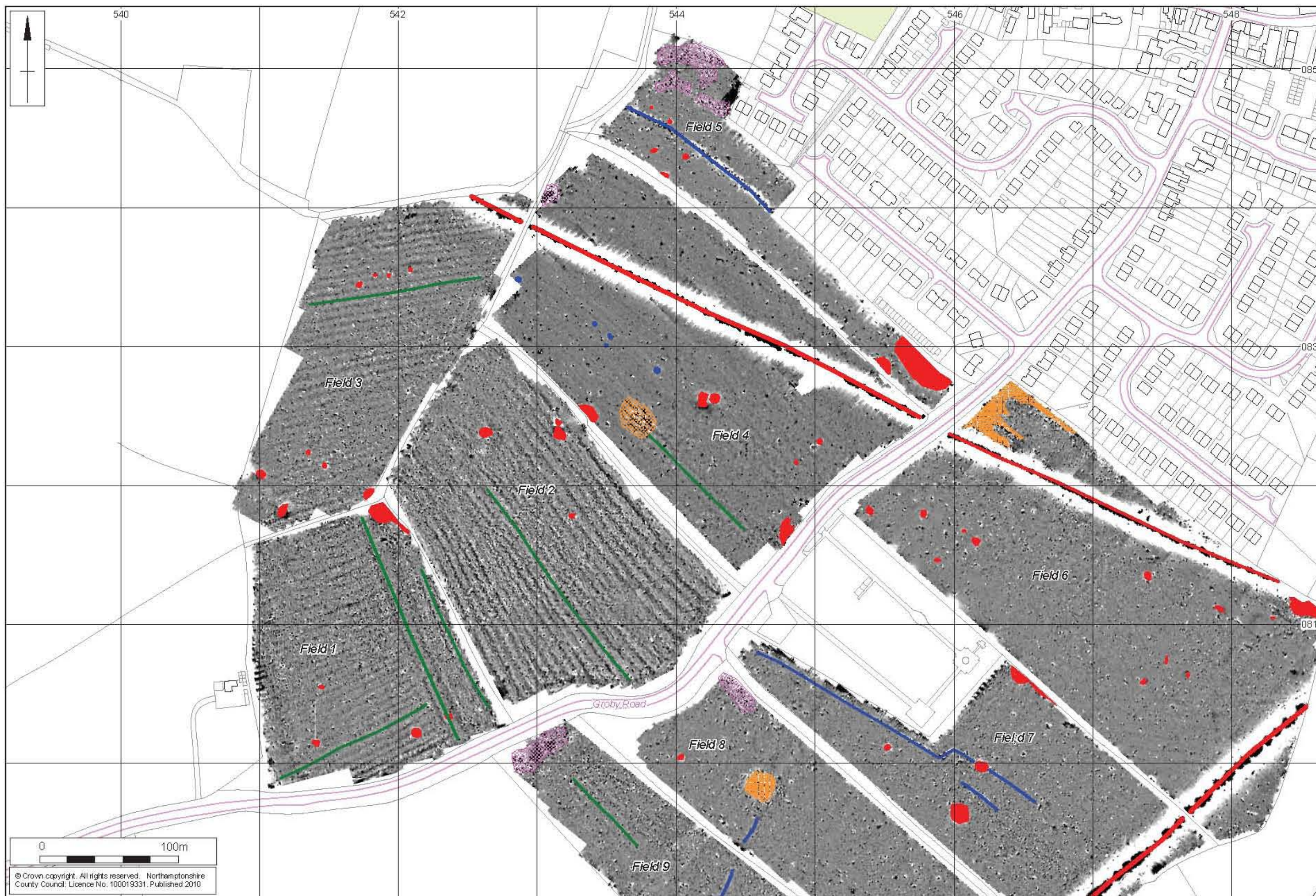
Contemporary Magnetic Disturbance

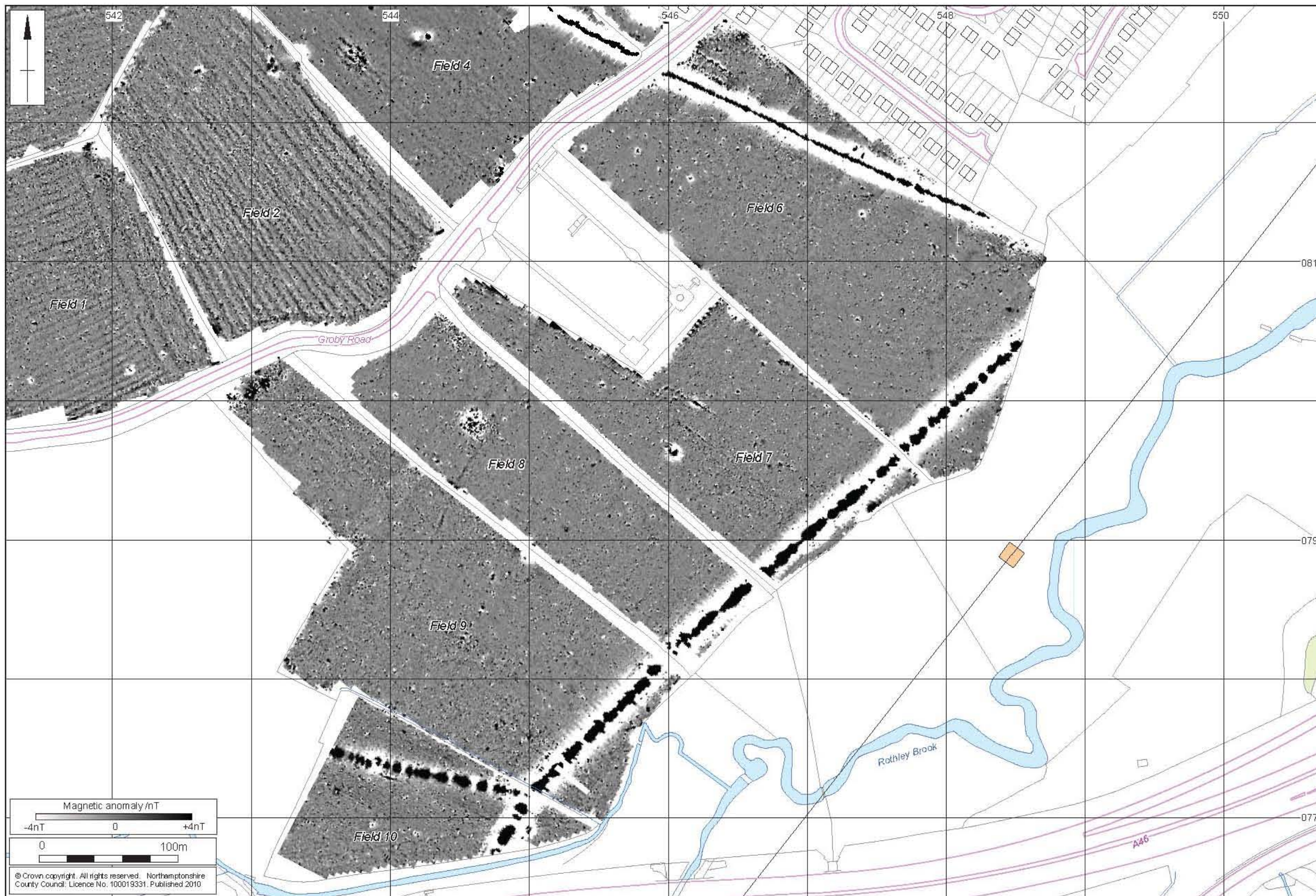


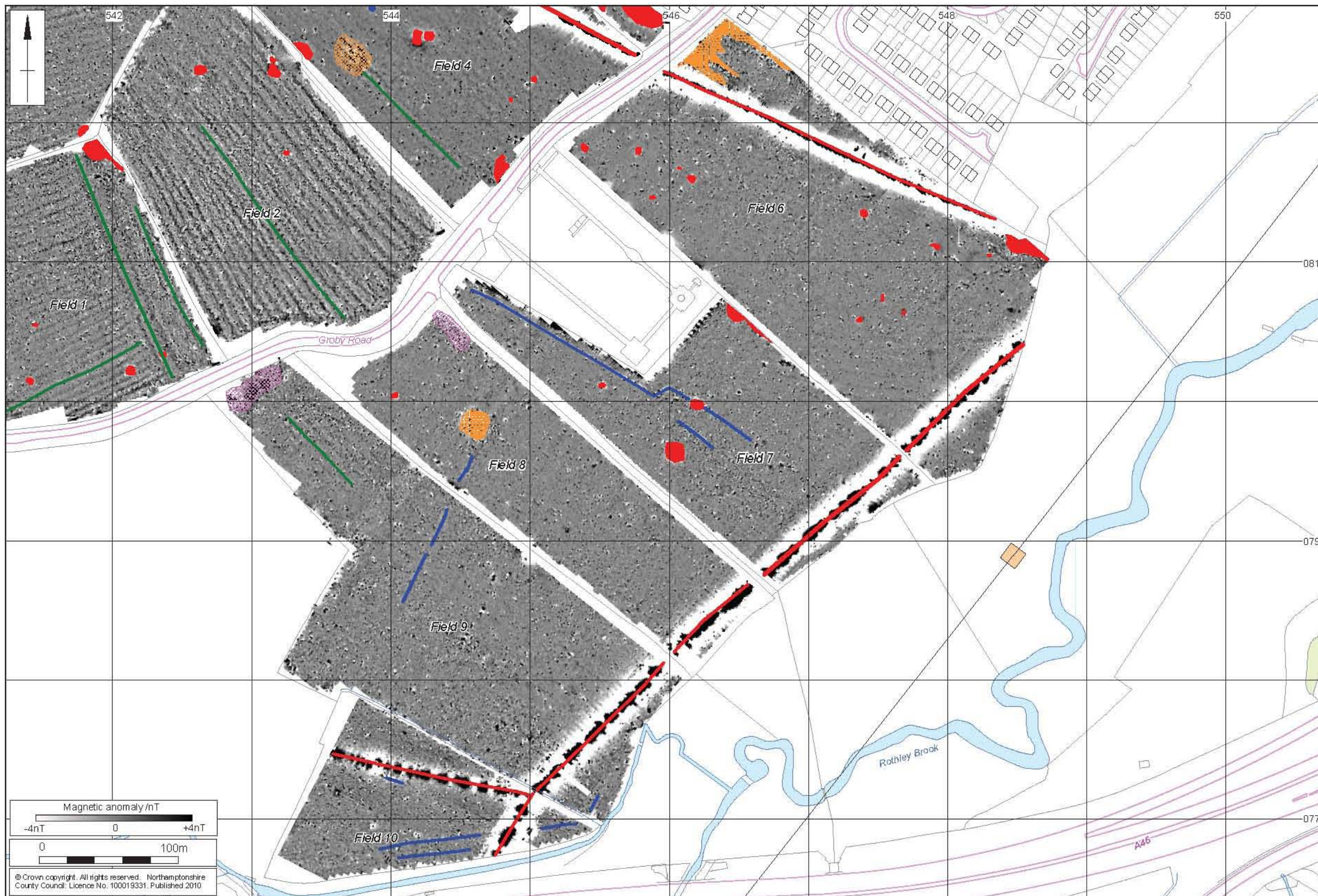
1:5000 @ A4

Anstey Magnetometer Survey Interpretation Fig 4











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