Northamptonshire County Council

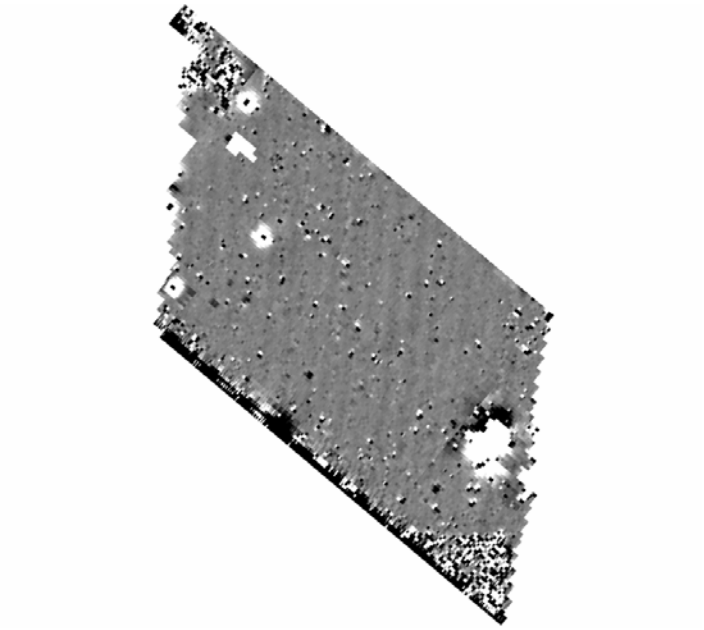
Northamptonshire Archaeology

Archaeological Geophysical Survey

on land off Cottage Close, Ratby

Leicestershire

June 2009



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June 2009

Report 09/079

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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey on Land off Cottage Close, Ratby, Leicestershire	
Short description	Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services to conduct an archaeological geophysical survey on land on the edge of Ratby. An area of *c* 2.5ha in two fields was surveyed by fluxgate gradiometer. The survey revealed little of archaeological interest other than north-south aligned remnant medieval ridge and furrow field cultivation. Moderate levels of contamination from iron and brick debris were encountered throughout the site.	
Project type	Geophysical survey	
Site status	None	
Previous work	Unknown	
Current Land use	Rough Pasture	
Future work	Unknown	
Monument type/ period		
Significant finds	None	
PROJECT LOCATION		
County	Leicestershire	
Site address	Groby Road, Ratby	
Study area	2.5ha	
OS Easting & Northing	451670 306145	
Height OD	100m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	University of Leicester Archaeological Services (ULAS)	
Project Design originator	NA	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler	
Sponsor or funding body	ULAS	
PROJECT DATE		
Start date	08 June 2009	
End date	29 June 2009	
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 on Land off Cottage Close, Ratby, Leicestershire	
Serial title & volume	Northamptonshire Archaeology Reports 09/79	
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ARCHAEOLOGICAL GEOPHYSICAL SURVEY

ON LAND OFF COTTAGE CLOSE, RATBY, LEICESTERSHIRE

JUNE 2009

ABSTRACT

Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services to conduct an archaeological geophysical survey on land on the edge of Ratby. An area of c*2.5ha in two fields was surveyed by fluxgate gradiometer. The survey revealed little of archaeological interest other than north-south aligned remnant medieval ridge and furrow field cultivation. Moderate levels of contamination from iron and brick debris were encountered throughout the site.*

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services to conduct an archaeological geophysical survey on land off Cottage Close on the north-eastern edge of Ratby, Leicestershire (NGR 451670 306145; Fig 1).

The objectives of the geophysical survey were to identify the presence or absence of archaeological remains within the proposed development area. The fieldwork consisted of a magnetic gradiometer survey covering approximately 2.5 hectares of land. No *Brief for Archaeological Works* was received from Leicestershire Historic Environment Team.

2 TOPOGRAPHY AND GEOLOGY

Ratby village is situated approximately 7km west of the centre of Leicester. The survey area occupies two north-west to south-east orientated fields on the north-eastern side of Ratby (Fields 1 and 2; Fig 1). It is bounded to the east by the M1 Motorway, to the north by houses which front onto the Groby Road and an empty lot which provides access. The west of Field 1 is bounded by a wooded screening bund which ends at Field 2 and beyond which Cottage Close is situated. A footpath crosses the south of Field 2 north-west to south-east and forms the effective southern boundary of the site.

The maximum elevation of the site is approximately 100m AOD. Drift geology is believed to consist of Till (source: www.bgs.ac.uk/geoindex/index.html 1:650,000 scale geology mapping accessed 24/06/09). Soils are of the 711m Salop Association (SSEW 1983, Sheet 3). At the time of

the fieldwork the field was rough pasture or parkland.

3 ARCHAEOLOGICAL BACKGROUND

Ratby is located within a landscape of prehistoric and Roman settlement. The Roman urban centre of *Ratae Corieltavorum* is a relatively short distance away in Leicester. *Ratby Bury*, a small Iron Age hillfort, is situated approximately 1km west of the village. Other Iron Age archaeology is known at Desford, nearby to the west.

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).

The entire site was divided into a single network of 34 contiguous, whole and partial, 30m x 30m grid squares. These were set out manually by tape measure and optical square, and were tied in by measurement to the field boundaries. The instruments were carried at a brisk but steady pace through each grid, 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 was carried out in accordance with the guidelines issued by English Heritage and by the Institute for Archaeology (EH 2008; Gaffney, Gater and Ovendon 2002).

The majority of the data was processed using Geoplot 3.00u software. Striping, occasionally caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function (ZMT) and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of a greyscale plot (scale +3nT to -3nT black ~ white). This has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative plot has been produced and is shown overlain onto the data in Figure 3.

5 SURVEY RESULTS

High positive and negative anomalies at the north, west and southern extremities of the site reflect

the magnetic content of the various boundaries. Considerable numbers of small, paired positive – negative anomalies, 'dipoles', were detected across the site. These mostly reflect small pieces of ferrous waste in the topsoil, such as horseshoes, ploughshare tips, nails etc.

Positive and negative magnetic banding aligned north to south through both surveyed fields indicates a ridge and furrow strip cultivation pattern of likely medieval date. This is not unusual for a field in Leicestershire and corresponds with records of ridge and furrow to the west of Ratby from the Archaeology Data Service (http://ads.ahds.ac.uk/catalogue/search accessed 24/06/09).

The northern access to Field 1 was partially surveyed and found to contain dipolar anomalies indicative of ferrous and brick waste, possibly associated with house building along Groby road. A similar area of noisy 'dipolar' data in the southern corner of Field 1 is likely to represent some of the magnetised material used as part of the adjacent bund. Further probable dumps of material were detected on either side of the fence that divides the two fields. Several extremely magnetic, but distinct anomalies, indicating large ferrous features, were located around the site.

6 CONCLUSION

Magnetometer survey over approximately 2.5ha in two fields at Ratby, Leicestershire has identified north – south trending anomalies consistent with medieval ridge and furrow field cultivation. Other magnetic anomalies detected indicated likely ferrous and brick debris, both individually and clustered.

BIBLIOGRAPHY

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

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

SSEW 1983 *Soils of England and Wales, Sheet 3, Midland and Western England Scale 1:250,000*, Soil Survey of England and Wales, Harpenden

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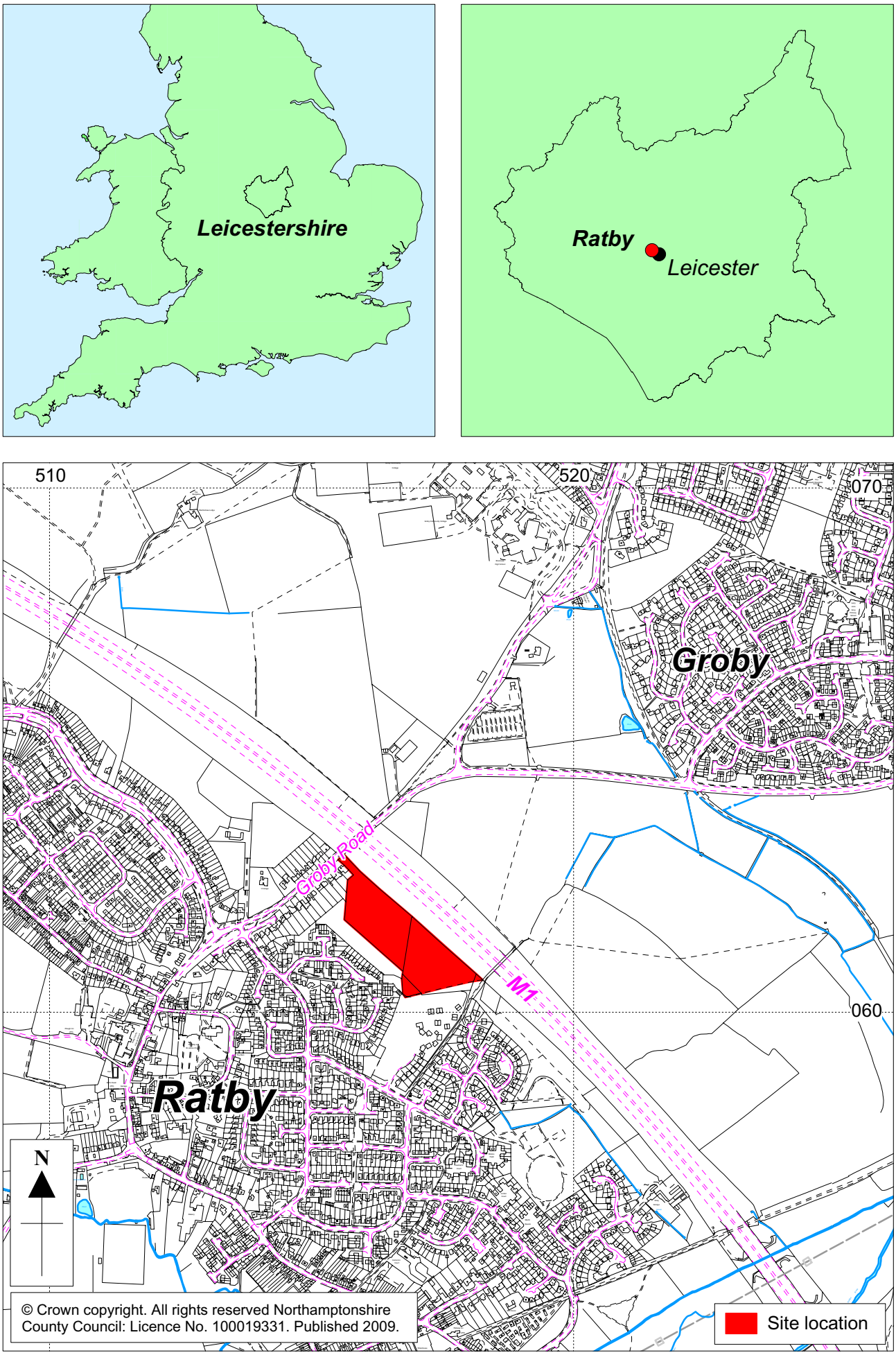
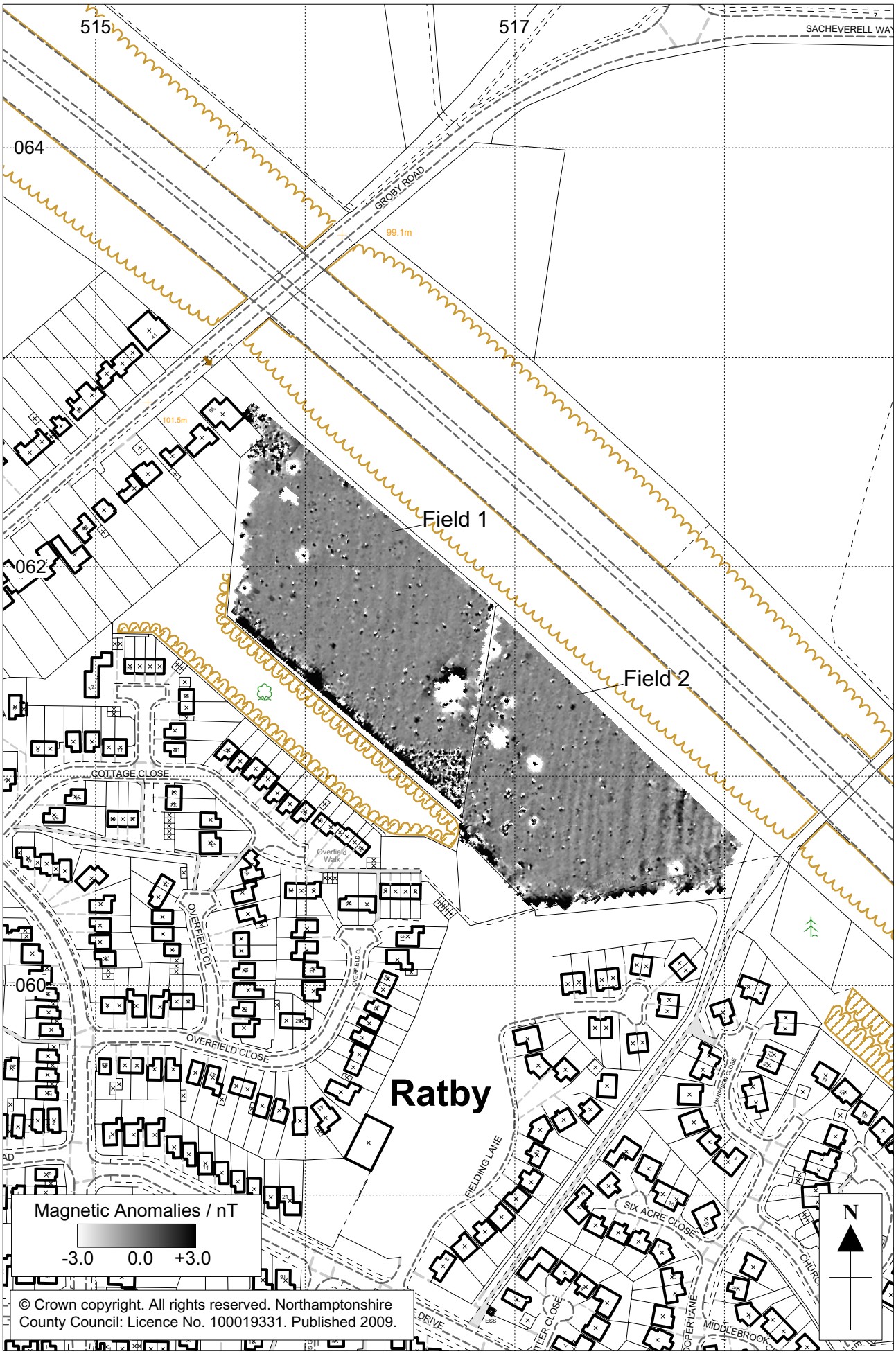


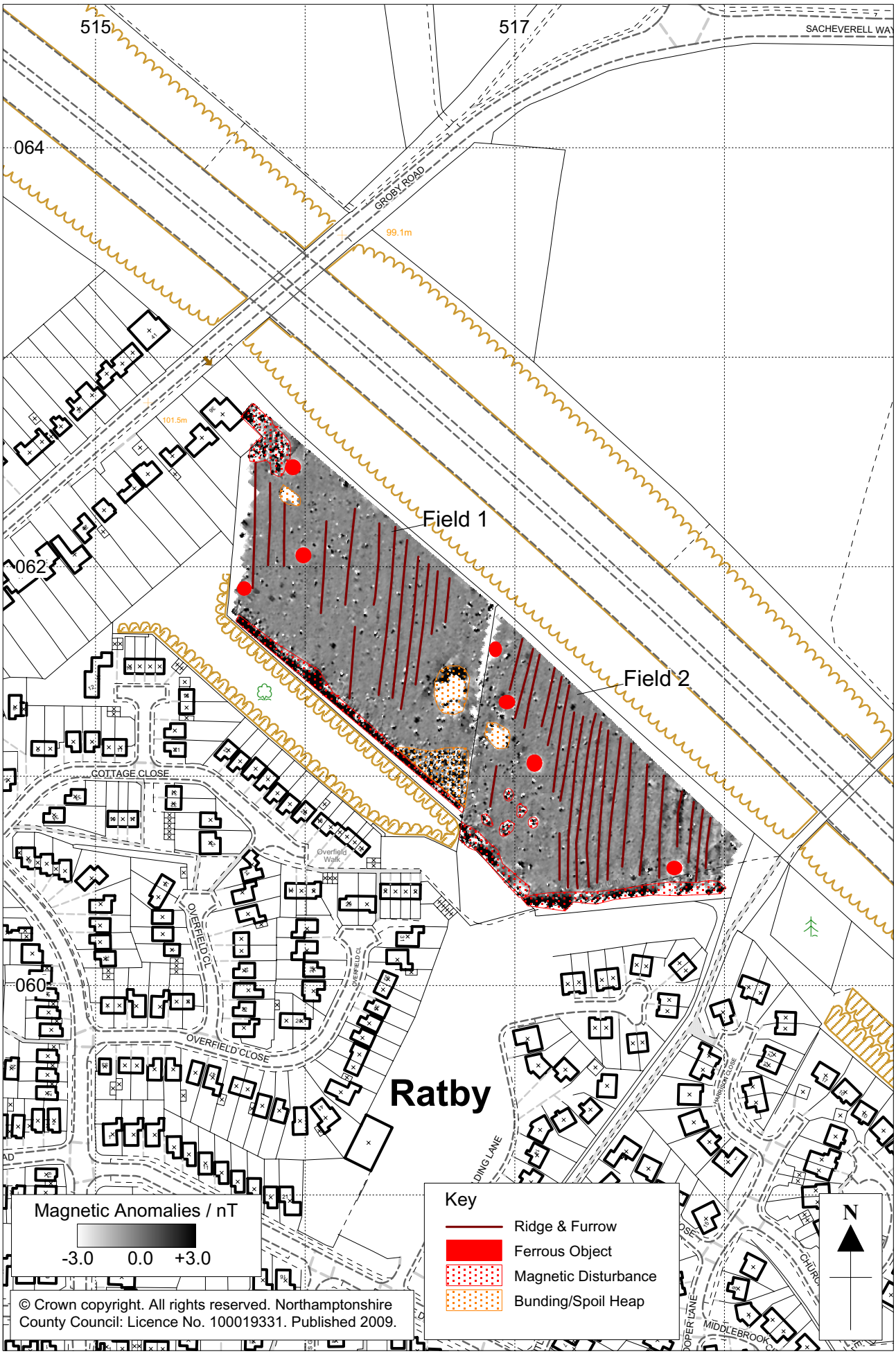
Scale 1:10,000

Site location Fig 1



Scale 1:2500

Gradiometer Survey Results Fig 2



Scale 1:2500

Gradiometer Survey Interpretation Fig 3