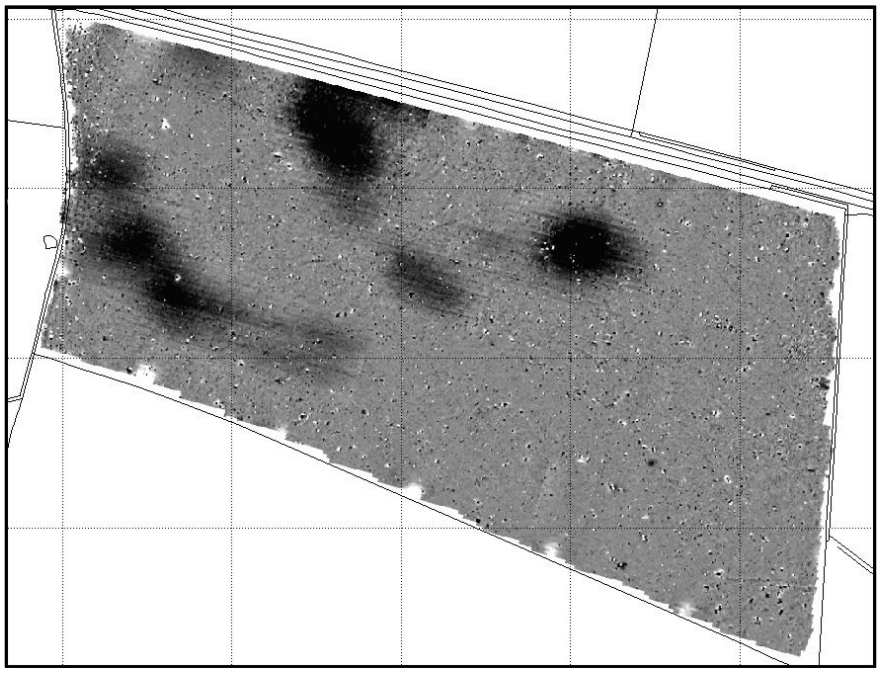

Archaeological geophysical survey at Knock Lane, Blisworth Northamptonshire August 2015

Event No: ENN 108092

Report No: 15/152

Author: John Walford

Illustrator: John Walford

Project Manager: John Walford
Event number: ENN 108092
NGR: SP 738 522

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Quality control and sign off**:**

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	26/08/2015	Pat Chapman	Mark Holmes	-	Client approval
2	21/09/2015	-	-	-	Minor corrections

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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1-221654	
Project name	Archaeological geophysical survey at Knock Lane, Blisworth, Northamptonshire	
Short description	MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Knock Lane, Blisworth, Northamptonshire. The survey results were dominated by strong geological responses, but some small anomalies of possible archaeological origin were also detected. These are tentatively interpreted as representing two ditches, a pit cluster and, possibly, a roundhouse.	
Project type	Geophysical survey	
Site status	None	
Previous work	Desk-based assessment (Field 2015)	
Current land use	Arable	
Future work	Unknown	
Monument type/ period	Possible undated ditches, pits and a roundhouse	
Significant finds	None	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Knock Lane, Blisworth	
Study area	*c* 11ha	
OS Easting & Northing	SP 738 522	
Height OD	*c* 120-130m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Prospect Archaeology	
Project design originator	MOLA Northampton	
Director/Supervisor	Adam Meadows	
Project Manager	John Walford	
Sponsor or funding body	ADAS UK	
PROJECT DATE		
Start date	10 August 2015	
End date	12 August 2015	
ARCHIVES	Location	Content
Physical	N/A	
Paper	MOLA Northampton and ADS	Site survey records
Digital		Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey at Knock Lane, Blisworth, Northamptonshire, August 2015	
Serial title & volume	MOLA Northampton Reports 15/152	
Author(s)	John Walford	
Page numbers	4	
Date	26 August 2015	

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Archaeological geophysical survey at Knock Lane, Blisworth, Northamptonshire August 2015

ABSTRACT

MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Knock Lane, Blisworth, Northamptonshire. The survey results were dominated by strong geological responses, but some small anomalies of possible archaeological origin were also detected. These are tentatively interpreted as representing two ditches, a pit cluster and, possibly, a roundhouse.

1 INTRODUCTION

MOLA was commissioned by Prospect Archaeology, on behalf of ADAS UK, to conduct a geophysical survey on *c* 11ha of land at Knock Lane, Blisworth, Northamptonshire (NGR SP 738 522; Fig 1). The purpose of the survey was to identify and map any archaeological remains which might be affected by the construction of a proposed solar farm. The fieldwork was undertaken from 10th to 12th August 2015 and has been recorded on the Northamptonshire Historic Environment Record (HER) under event number ENN 108092.

2 BACKGROUND

2.1 Topography and geology

The survey area lies on the southern side of Knock Lane, midway between the villages of Blisworth and Roade (Fig 1). It comprises a single arable field which is approximately rectangular in shape.

The survey area lies on a gentle east facing slope between 120m and 130m above Ordinance Datum. Its geology is mapped as Blisworth Limestone overlain by Boulder Clay (BGS 2015).

2.2 Historical and archaeological background

The survey area has been the subject of a recent desk-based heritage assessment (Field 2015), upon which the following summary is based. This assessment considered all relevant sources, including historic maps and data from the Northamptonshire HER.

No definite prehistoric or Roman remains are known to exist in or immediately around the survey area. However, two undated cropmarks of small sub-circular enclosures which occur nearby may be broadly attributable to one or other of these periods. One of these cropmarks lies approximately 100m south of the survey area and the other lies just beyond its north-eastern corner, on the opposite side of Knock Lane (Field 2015, fig 3)

The survey area lies well away from any known area of medieval or post-medieval settlement, and historic maps indicate that it was partly covered by woodlands belonging to the Grafton Estate in the 18th and early 19th centuries (Field 2015, 12-14). The HER records cropmark or soilmark evidence for woodland features (wood-banks and charcoal burning platforms) in the fields to the south of the survey area (Field 2015, appendix 1).

3 METHODOLOGY

The magnetometer 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).

A network of 30m grid squares was established across the field to be surveyed. These were set out with a tape measure and optical square and were tied in to the Ordnance Survey National Grid by means of a Leica Viva RTK GPS. 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 square. All fieldwork methods complied with the guidelines issued by Historic England and by the Chartered Institute for Archaeologists (HE 2015; CIfA 2014).

The processing of the data comprised two steps, de-striping to remove the effects of sensor imbalances, and de-staggering to compensate for traverses walked marginally too fast or slow. Under normal circumstances both steps would have been undertaken with Geoplot 3.00v, but in this case the non-uniform magnetic background did not respond well to that software's 'zero mean traverse' de-striping function. Thus an alternative method was employed, using a spreadsheet-based de-striping routine developed in-house at MOLA Northampton. This method better preserved the variable magnetic background, although at the cost of some weak residual striping in the data.

The processed data is presented in this report as a greyscale plot (range +4nT to -4nT / black to white), rotated and scaled for display against the Ordnance Survey base mapping (Fig 2). An interpretative plot is provided as Figure 3 and a plot of the unprocessed data as Figure 4.

4 SURVEY RESULTS

The dominant feature of the survey results is a group of large but relatively low-intensity positive anomalies in the north-western half of the survey area. These are likely to be of geological origin, as discussed below. Much more subtle anomalies also occur, with some of these likely to represent field drains and others possibly arising from archaeological features.

The possible archaeological anomalies include a weak, sinuous linear anomaly towards the centre of the survey area, another linear anomaly and cluster of discrete anomalies in the south-eastern corner of the area and a small, weak penannular anomaly midway along its eastern edge. A few other discrete anomalies occur in widely scattered locations. The two linear anomalies possibly represent ditches and the discrete anomalies could represent pits, although the latter can be hard to distinguish with confidence from weak ferrous anomalies and background magnetic noise.

The penannular anomaly at the eastern edge of the survey area measures *c* 8m across and has a possible opening to the east. Its size, shape and magnetic characteristics are very reminiscent of the anomalies produced by roundhouses on Iron Age and Roman settlement sites, and an interpretation as a roundhouse is suggested accordingly. However, this must be regarded as a slightly tentative interpretation in the absence of any enclosing ditch or any other clearly associated settlement features.

Two sets of very weak parallel linear anomalies occur within the survey data. One set has a south-west to north-east alignment and the other, which is less distinct, is aligned

from south-east to north-west. Neither set exhibits the gently sinuous curves which would be characteristic of medieval ridge and furrow cultivation, and for this reason an interpretation as modern field drains is considered more plausible.

Small ferrous anomalies are widespread across the survey area, and will mostly represent insignificant pieces of ferrous debris within the ploughsoil. However, the regularly-spaced set of negative ferrous halos on the southern edge of the survey area may be of more significance. No obvious above-ground cause was observed by the field team, but a possible explanation would be that the halos represent metal collars or other fittings occurring at intervals along an otherwise non-magnetic pipe.

The large anomalies in the north-west of the survey area attain maximum intensities of around 5nT - 7nT and have soft, ill-defined edges. These characteristics suggest that they arise from massive magnetic sources lying at moderate depth within the natural substrate. Very similar anomalies have been identified on surveys a few miles to the north, in the Dallington area, and were suggested to represent rafts of ironstone within the Northamptonshire Sand geology (Butler *et al* 2012, Walford 2014). However, the solid geology at Knock Lane is mapped as limestone (which should be scarcely magnetic) and, judging by the elevation of its nearest mapped outcrops, the iron-rich Northamptonshire Sand Formation would appear to lie *c* 15 to 20m below the surface of the survey area. Given this lack of a plausible near-surface geological source, the precise cause of these anomalies remains enigmatic.

5 CONCLUSION

The survey has detected a few weak and ambiguous magnetic anomalies of possible archaeological interest. The most distinctive of these is a small penannular anomaly which resembles the typical response from an Iron Age or Roman roundhouse. The other anomalies possibly represent two ditches and a small cluster of pits. Most of these putative features are concentrated towards one edge of the survey area and it is possible, though by no means certain, that they indicate part of an unenclosed settlement site which may extend eastwards across the adjacent field.

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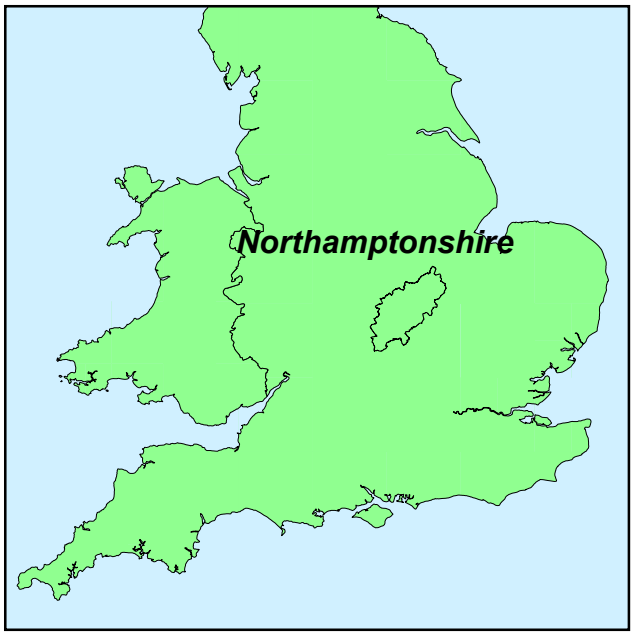
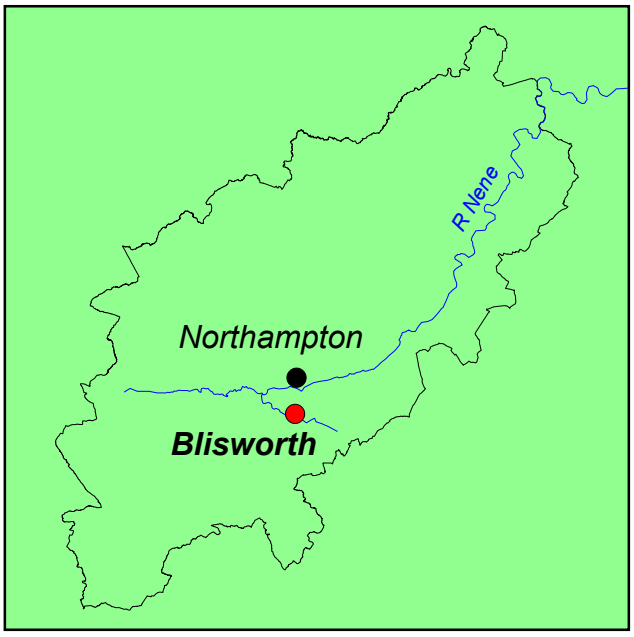
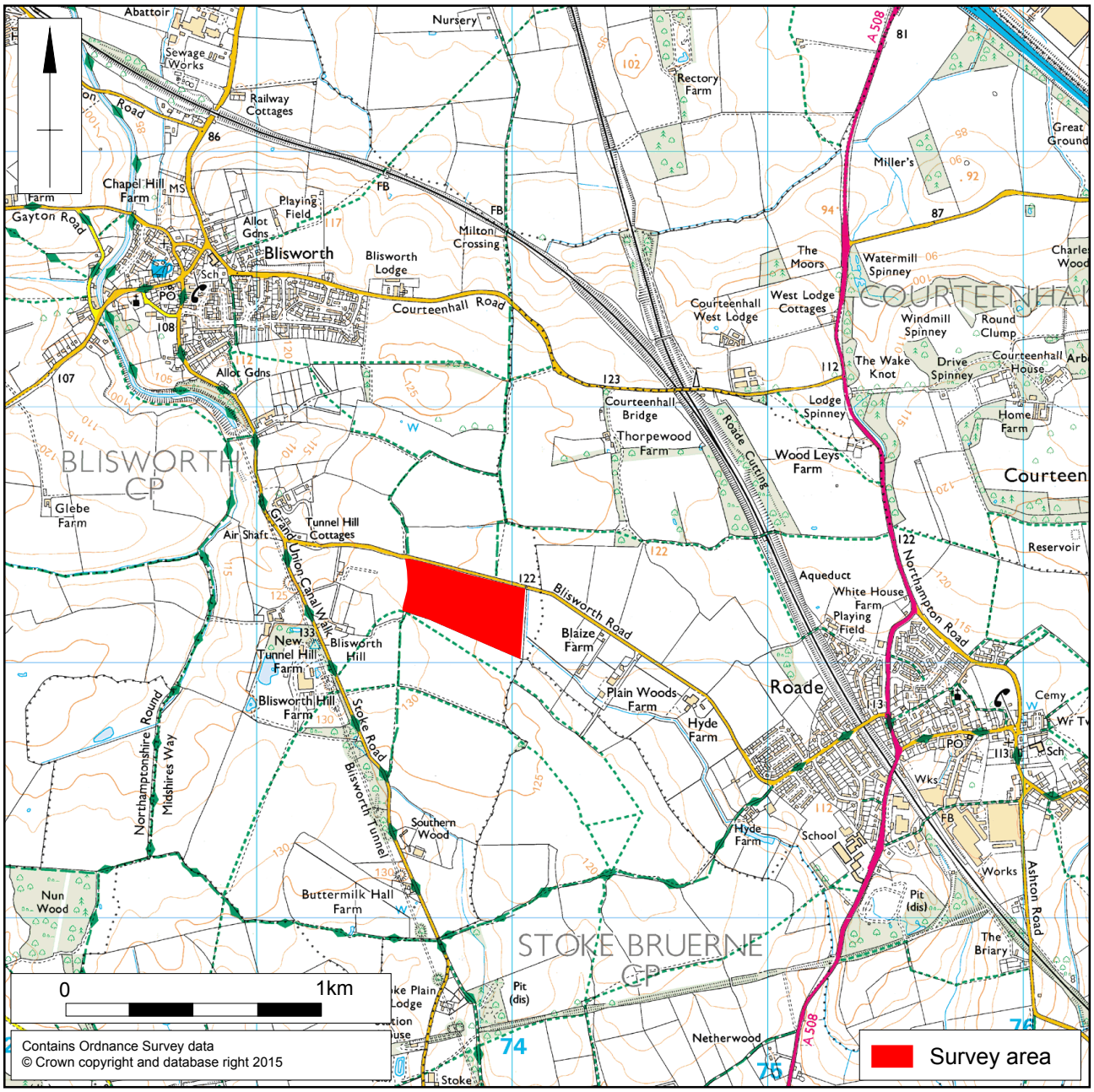
26 August 2015







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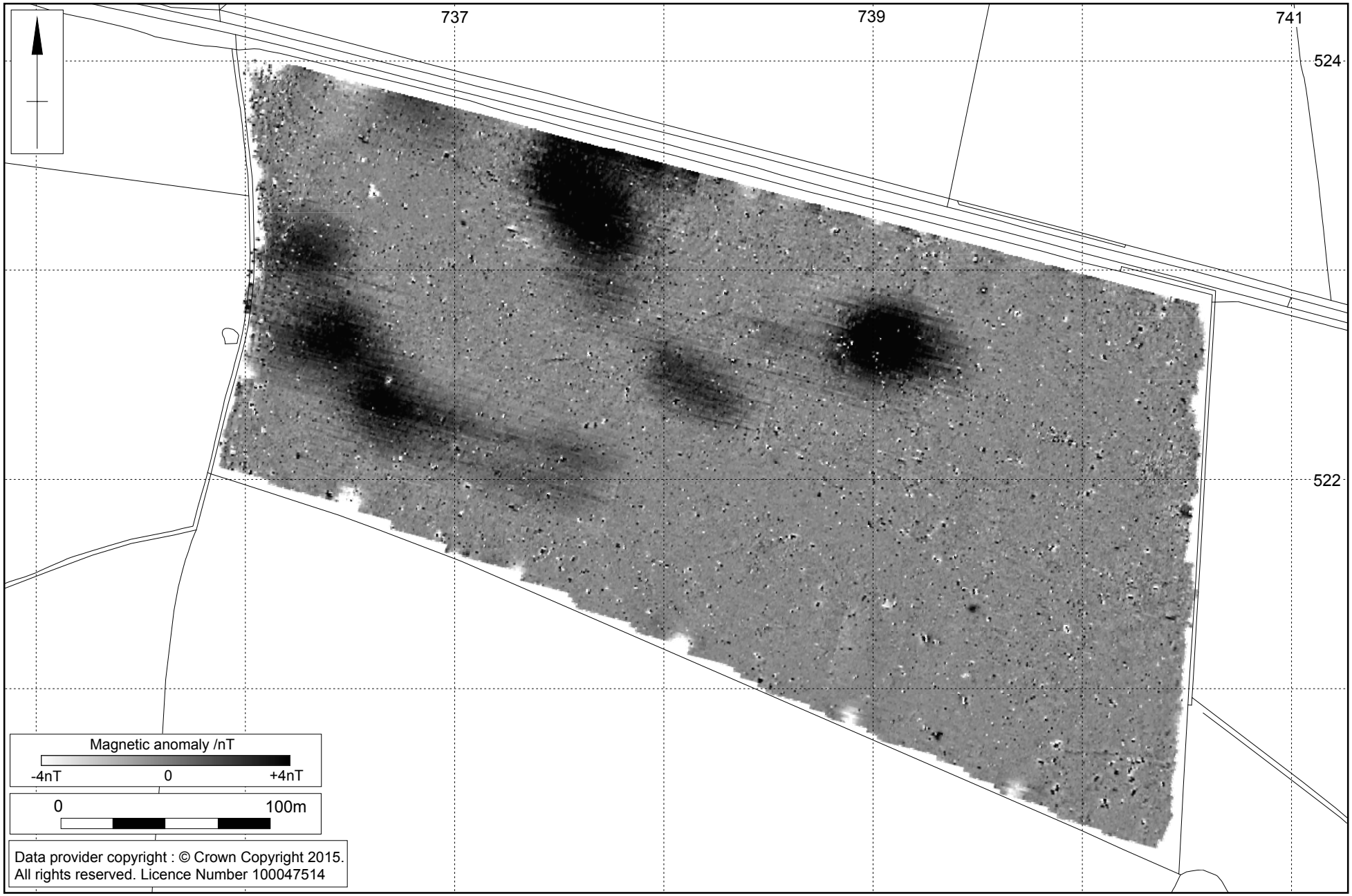
Site location Fig 1



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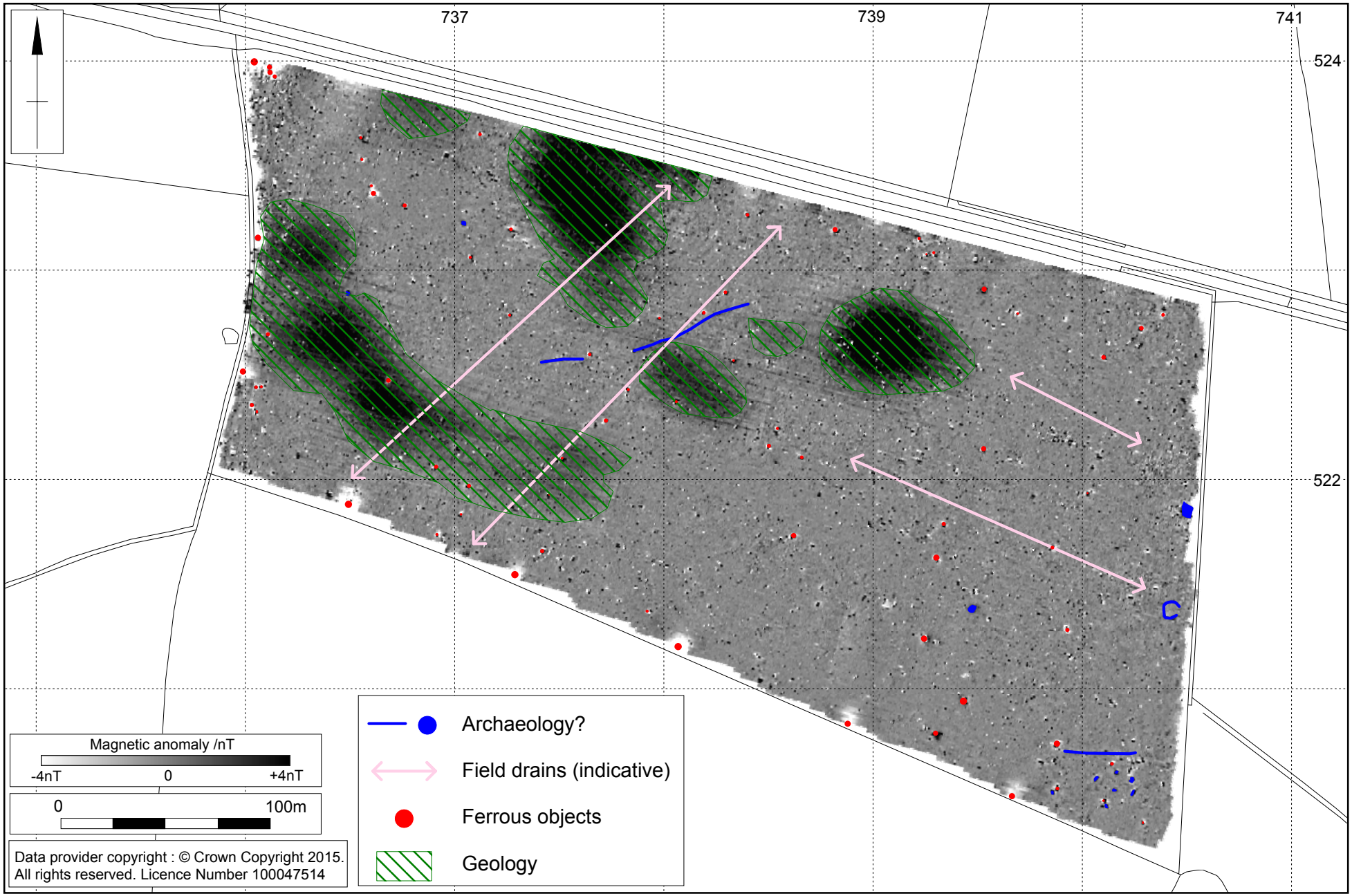
Magnetometer survey results Fig 2



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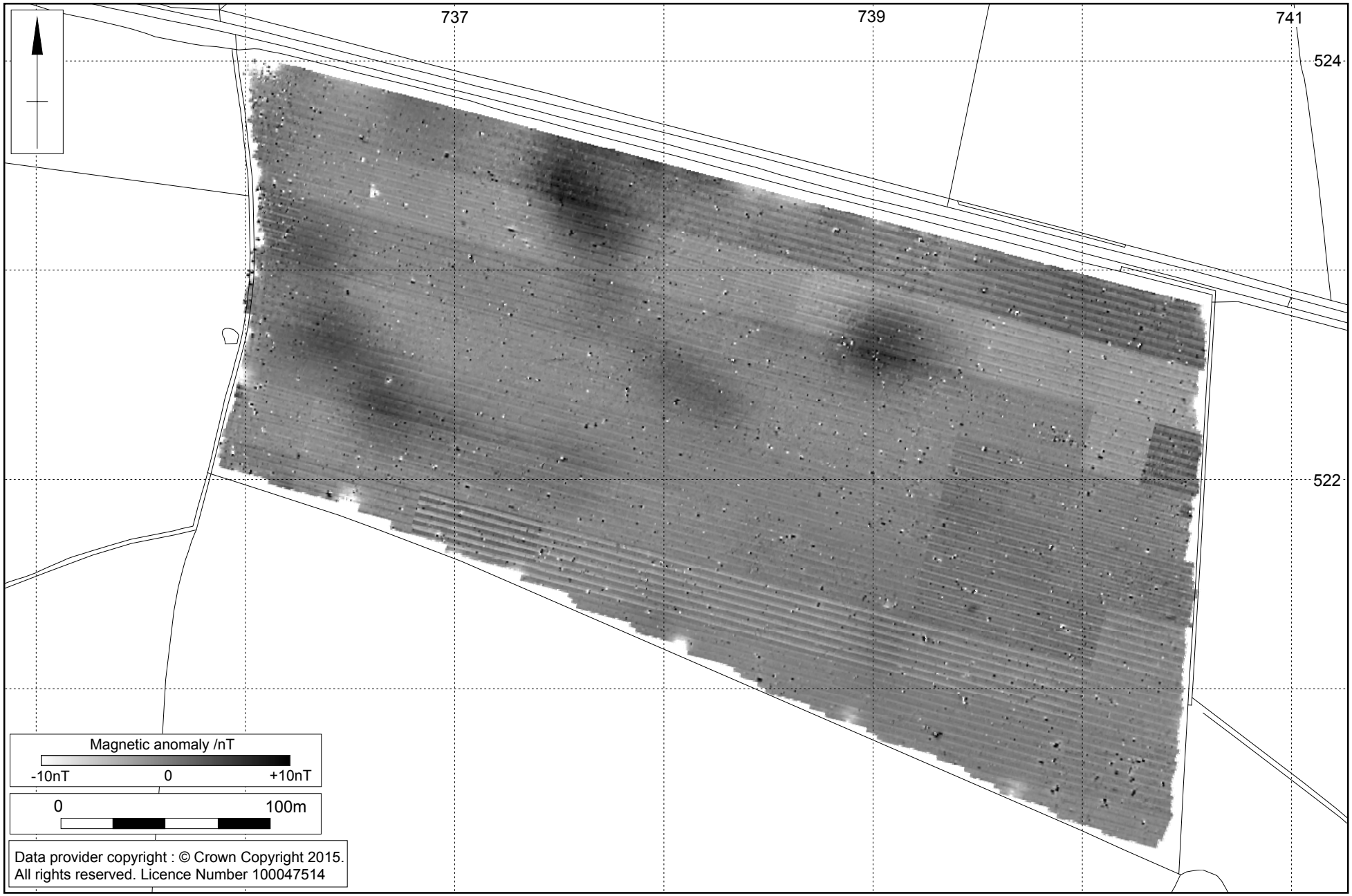
Magnetometer survey interpretation Fig 3



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Unprocessed magnetometer data Fig 4

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