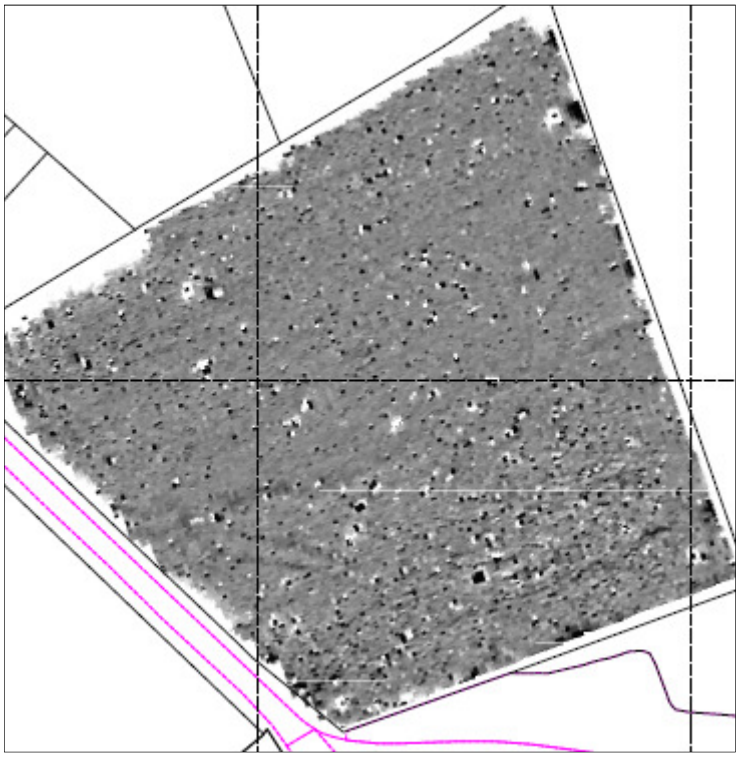

Archaeological geophysical survey of land east of Mount Pleasant Road Repton, Derbyshire November 2015

Report No. 15/220

Author: Olly Dindol

Illustrator: Ian Fisher

Project Manager: John Walford
NGR: SK 312 264

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Archaeological geophysical survey of land east of Mount Pleasant Road, Repton, Derbyshire November 2015

Report No. 15/220

Quality control and sign off**:**

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	09/12/2015	-	John Walford	Mark Holmes	Client approval

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OASIS REPORT

PROJECT DETAILS	Oasis No. molanort1-233776	
Project name	Archaeological geophysical survey of land east of Mount Pleasant Road, Repton, Derbyshire.	
Short description	MOLA was commissioned by CgMs Consulting to carry out a detailed magnetometer survey on land east of Mount Pleasant Road, Repton, Derbyshire. The survey identified a number of linear features, possibly ditches, and one possible pit.	
Project type	Geophysical survey	
Site status	None	
Previous work	None	
Current Land use	Arable	
Future work	None	
Monument type/ period	Ditches and pit of unknown date	
Significant finds	None	
PROJECT LOCATION		
County	Derbyshire	
Site address	Mount Pleasant Road	
Study area	*c* 1.5ha	
OS Easting & Northing	NGR SK 312 264	
Height OD	*c* 65m – 70m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	CgMs Consulting	
Project design originator	MOLA Northampton	
Director/Supervisor	Olly Dindol	
Project Manager	John Walford	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	17 November 2015	
End date	17 November 2015	
ARCHIVES	Location	Content
Physical	N/A	
Paper	MOLA Northampton	Site survey records
Digital		Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey of land east of Mount Pleasant Road, Repton, Derbyshire, November 2015	
Serial title & volume	MOLA Northampton Reports 15/220	
Author(s)	Olly Dindol	
Page numbers	3	
Date	8 December 2015	

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Archaeological geophysical survey of land east of Mount Pleasant Road, Repton, Derbyshire November 2015

ABSTRACT

MOLA was commissioned by CgMs Consulting to carry out a detailed magnetometer survey on land east of Mount Pleasant Road, Repton, Derbyshire. The survey identified a number of linear features, possibly ditches, and one possible pit.

1 INTRODUCTION

MOLA was commissioned by CgMs Consulting to conduct a geophysical survey on 1.5ha of arable land to the east of Mount Pleasant Road, Repton (NGR SK 312 264; Fig 1). The purpose of the survey was to identify and map any archaeological remains which may be affected by a proposed development scheme. The fieldwork was undertaken on the 17th November 2015.

2 BACKGROUND

2.1 Location and geology

The survey area consists of an arable field set on the south-eastern edge of Repton. It is bounded to the south and west by Mount Pleasant Road, and to the north and eastby arable fields. The survey area lies on a shallow west facing slope at an elevation of *c* 65m – 70m aOD.

The geology of the area comprises sandstones and mudstones of the Bromsgrove sandstone formation. No superficial geology is recorded (BGS 2015).

2.2 Historical and archaeological background

The Derbyshire Historic Record (HER) records no archaeological features within the survey area and little of relevance in the surrounding areas. Roman archaeology is limited to a handful of finds recovered in fields to the north and east (HER No 24508 & HER No 24520). Anglo-Saxon finds consist of two brooches found by metal detectors, one to the north (HER No 24542) and one to the east (HER No 24519). Medieval and post-medieval archaeology is limited to various buildings situated within the historical core of Repton, which is located to the north-west of the survey area.

Other archaeological works carried out in the vicinity comprise a previous geophysical survey and subsequent trial trenching works conducted on the fields directly to the north of the current area (Fig 2). This survey discovered little in the way of archaeological features, with only medieval ridge and furrow earthworks and a Second World War pillbox being identified (Ladocha 2012). The trial trenching identified the footings of second pill box, but nothing else of archaeological interest (WA 2015).

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. The grid was set out with a tape measure and optical square and was tied in to the Ordnance Survey National Grid by means of a Leica Viva dGPS. 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 Institute for Archaeologists (HE 2015; CIfA 2014).

The survey data was processed using Geoplot 3.00v software. The striping was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed where necessary. The processed data is presented in this report in the form of a greyscale plot at a range of +4nT (black) to -4nT (white). This has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2-3) and is shown with an interpretative overlay in Figure 4. A separate plot of the unprocessed data is presented in Figure 5.

4 SURVEY RESULTS

The survey identified a number of weakly positive linear anomalies as well as a discrete anomaly of rectangular form. The monopolar response, consistent readings of 10-15nT and more uniform nature of the rectangular anomaly suggest an archaeological feature, such as a pit with a magnetic fill, rather than modern ferrous debris.

The discrete anomalies comprise very weakly positive linear anomalies which can be roughly divided into three groups; a single anomaly bisecting the survey area, three anomalies in the west and two anomalies in the north. The anomaly bisecting the survey area is discontinuous and is difficult to identify towards the centre of the survey area. A weak anomaly such as this could represent a plough headland or a natural feature. On the western boundary three linear anomalies are located, one to the north of the possible headland the others to the south, the closely spaced parallel nature of these anomalies suggests the side ditches of a trackway or comparable feature. In the north-west of the survey area a pair of parallel linear anomalies aligned west-east can be identified, these could represent a pair of gullies although due to weak nature of the features it is hard to say with any certainty if they are indeed archaeological in nature.

Small dipolar anomalies are widespread across the survey area, and will mostly represent insignificant pieces of ferrous debris within the ploughsoil. On the eastern edge of the survey area part of an alternating magnetic halo can be discerned. The source of this halo is uncertain but could be an underground pipe lying just outside the survey area.

5 CONCLUSION

The magnetometer survey has detected one possible pit and a number of linear features of uncertain character. Some of these features may be of minor archaeological interest but the evidence is inconclusive.

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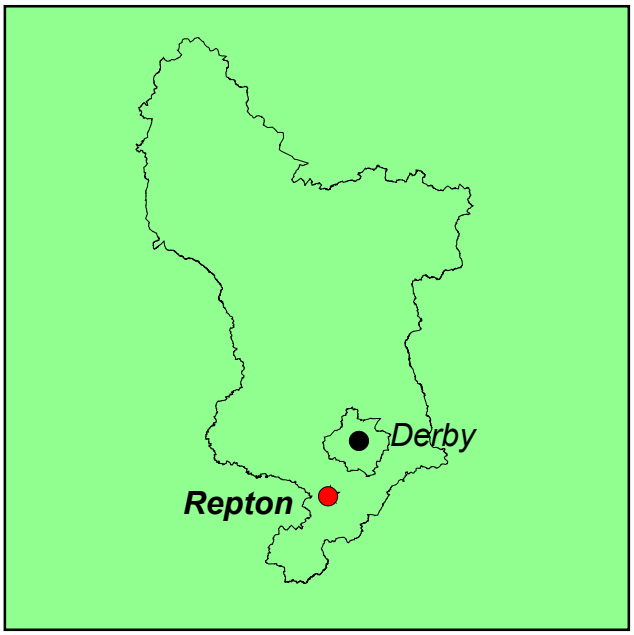
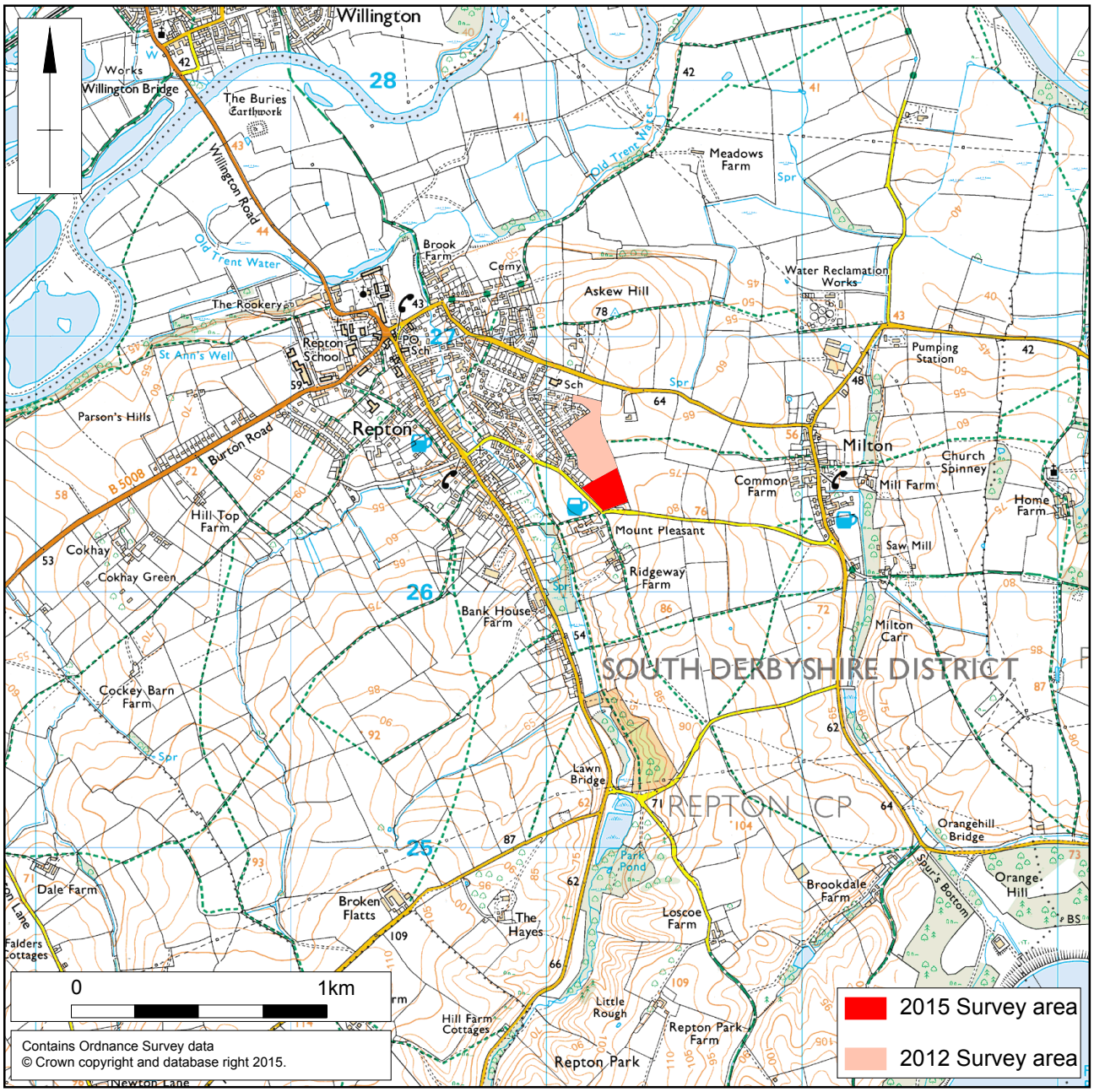
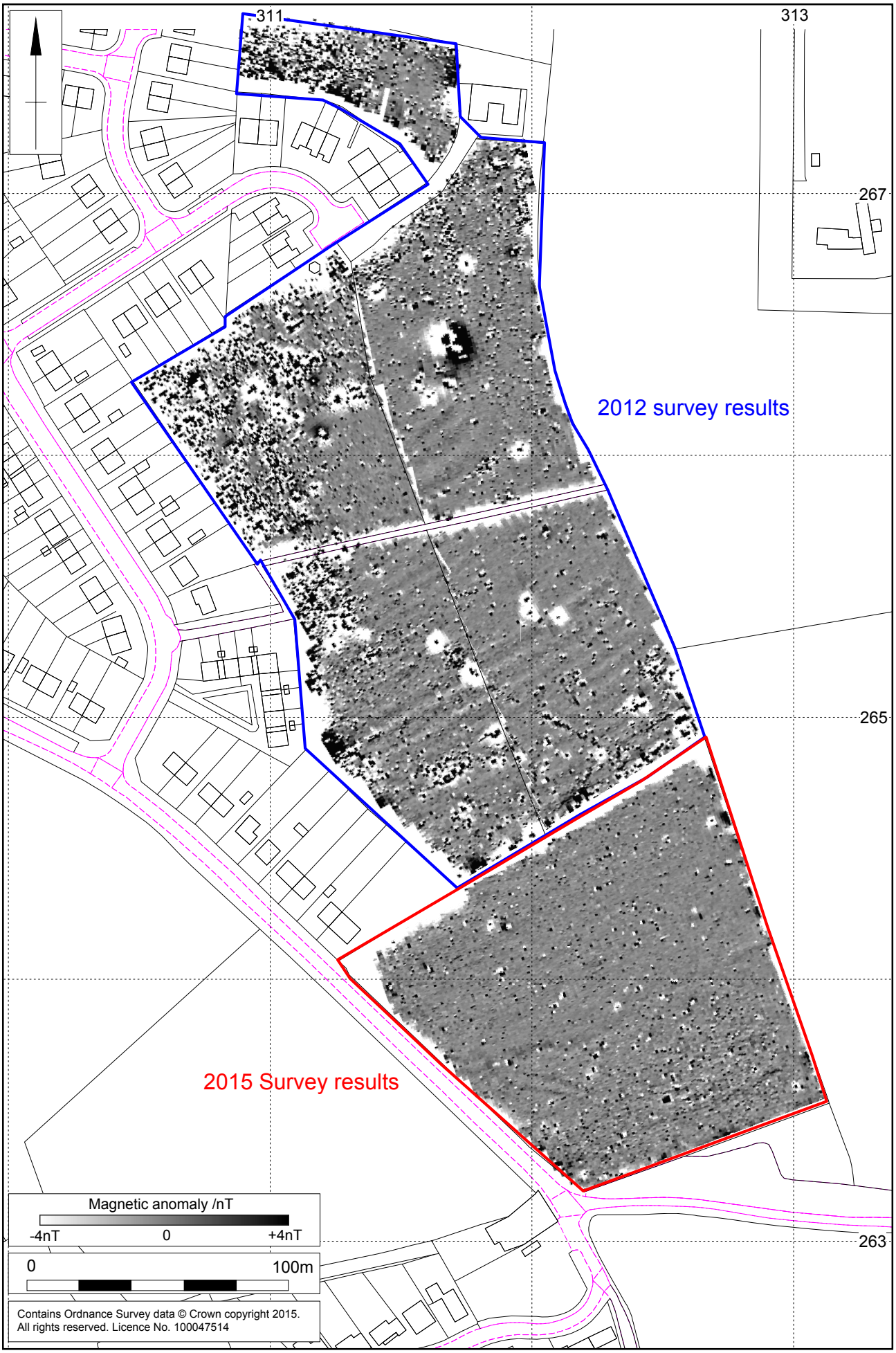
MOLA
9 December 2015





Scale 1:25,000

Site location Fig 1



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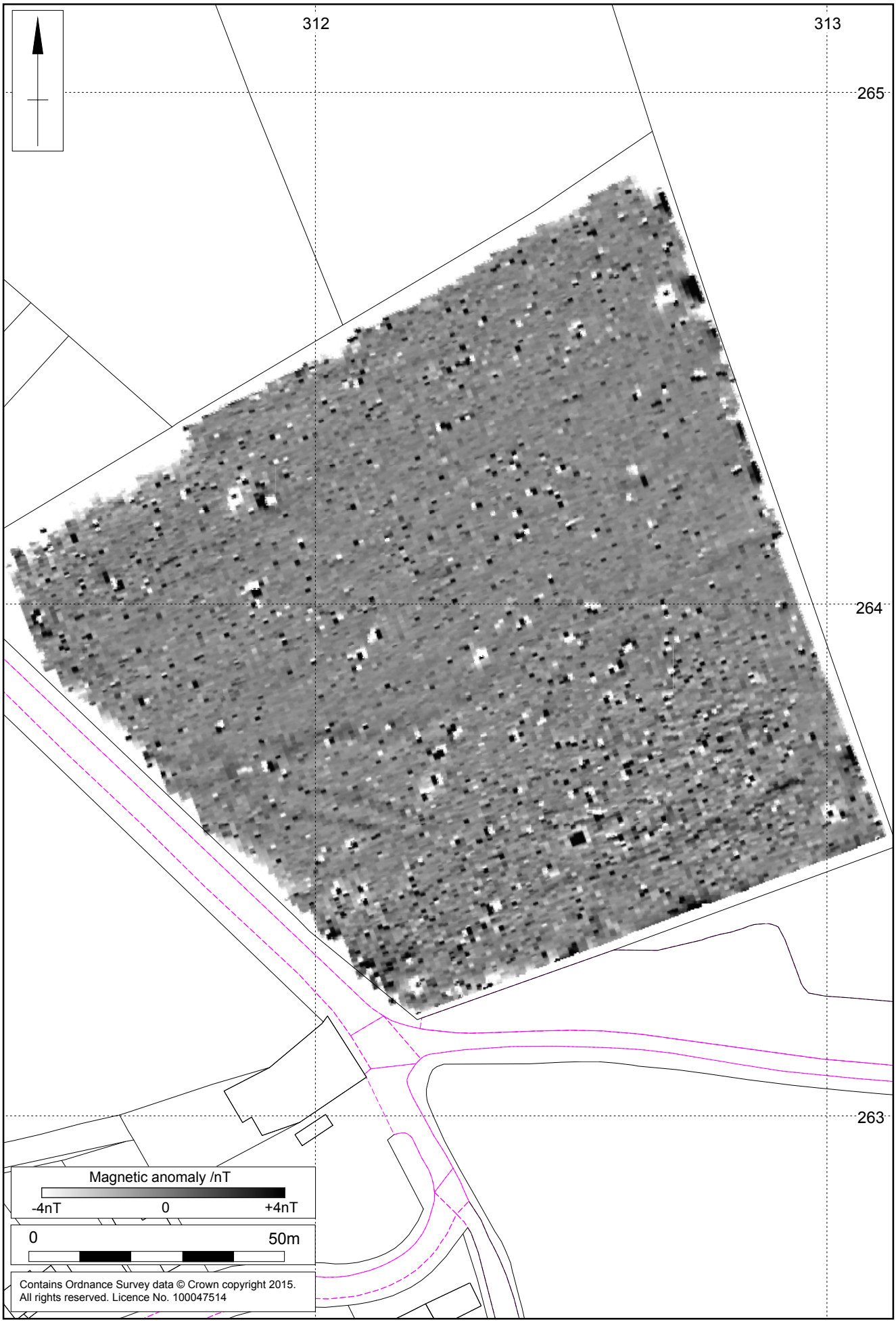
Magnetometer survey results (2012 & 2015) Fig 2



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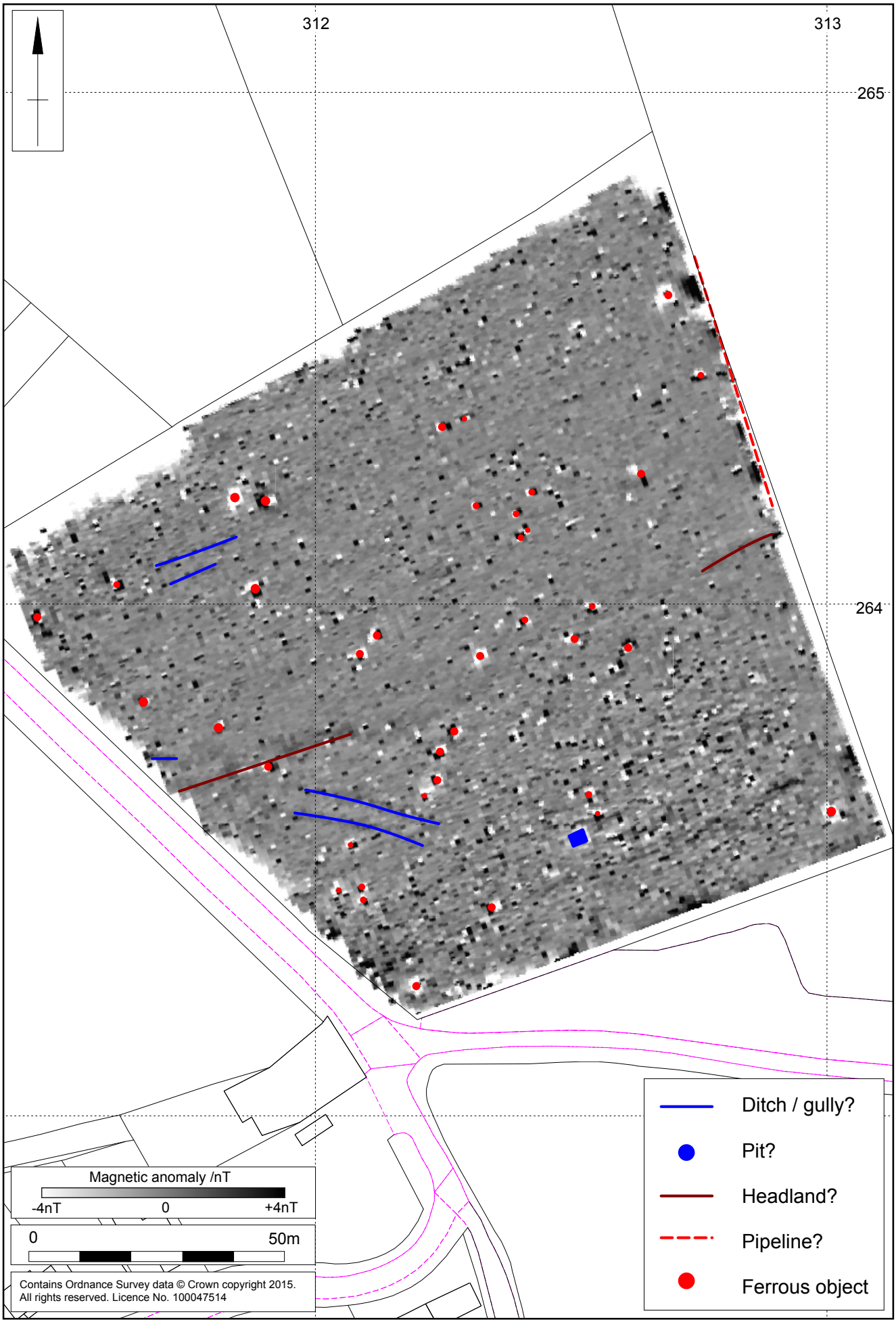
Magnetometer survey results Fig 3



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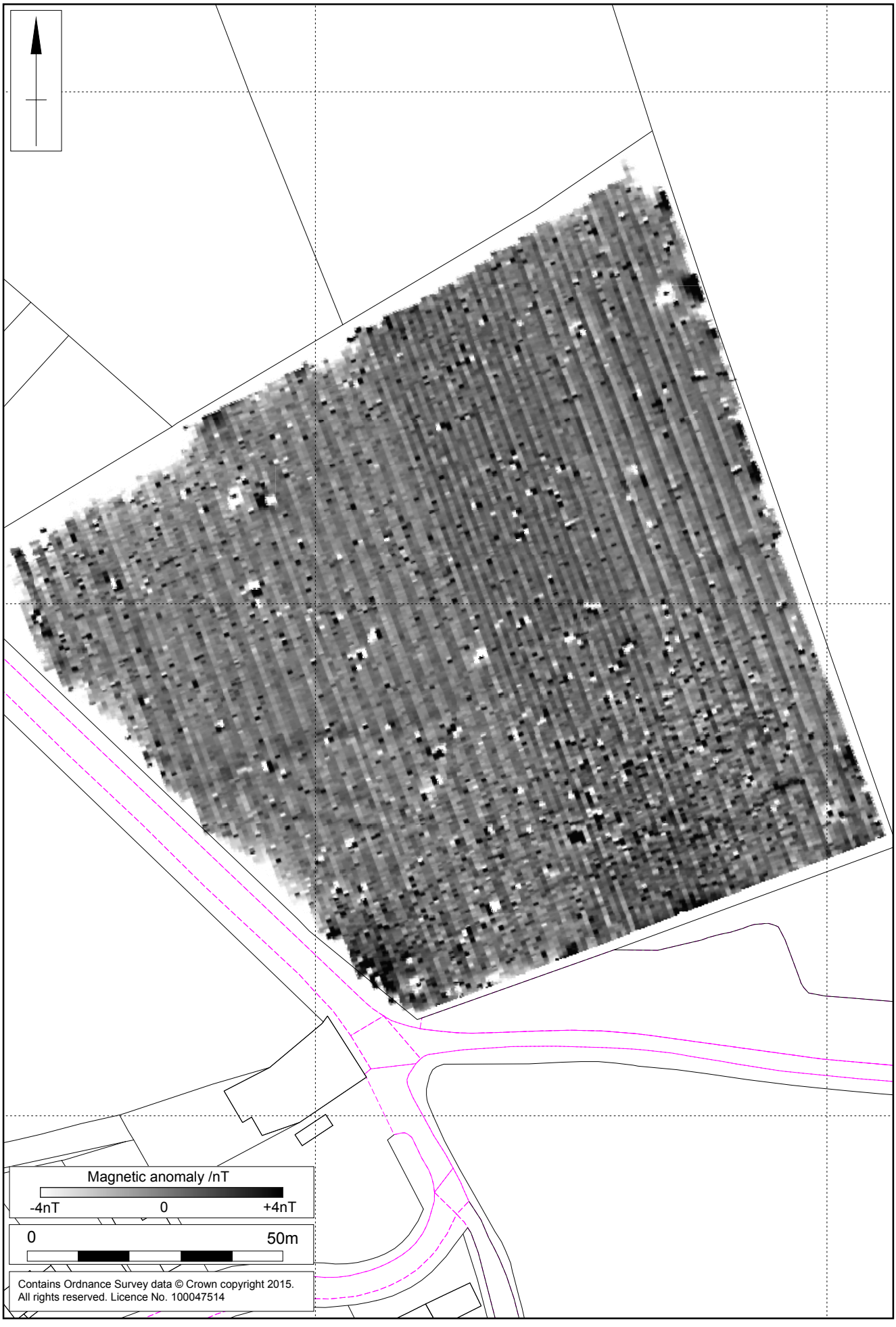
Magnetometer survey interpretation Fig 4



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Unprocessed magnetometer data Fig 5

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