

**Archaeological geophysical survey at
Quanton Road, Waddesdon
Buckinghamshire
June 2015**

Report No. 15/114

Author: Adam Meadows

Illustrator: John Walford



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Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	19/06/2015	Pat Chapman	John Walford	Andy Chapman	Client approval

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OASIS REPORT

PROJECT DETAILS		Oasis No. molanort1-214806	
Project name	Archaeological geophysical survey at Quanton Road, Waddesdon, Buckinghamshire		
Short description	MOLA was commissioned to carry out a detailed magnetometer survey on land near Quanton Road, Waddesdon, Buckinghamshire. The survey identified a few anomalies of possible archaeological interest, including three which were very tentatively interpreted as kilns. Ridge and furrow of medieval to early post-medieval date was also identified.		
Project type	Geophysical survey		
Site status	None		
Previous work	None known		
Current Land use	Pasture		
Future work	Trial trench evaluation		
Monument type/ period	Medieval ridge and furrow, undated pit and ditch, possible kiln		
Significant finds	None		
PROJECT LOCATION			
County	Buckinghamshire		
Site address	Quanton Road, Waddesdon		
Study area	c 3ha		
OS Easting & Northing	SP 746 171		
Height OD	c 95m aOD		
PROJECT CREATORS			
Organisation	MOLA Northampton		
Project brief originator	Phil Markham, Buckinghamshire Senior Archaeology Officer		
Project design originator	MOLA Northampton		
Director/Supervisor	Adam Meadows		
Project Manager	John Walford		
Sponsor or funding body	LMR Designs		
PROJECT DATE			
Start date	1 June 2015		
End date	1 June 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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report		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 at Quanton Road, Waddesdon, Buckinghamshire, June 2015		
Serial title & volume	MOLA Northampton Reports 15/114		
Author(s)	Adam Meadows		
Page numbers	3		
Date	19 June 2015		

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Archaeological geophysical survey at Quainton Road Waddesdon, Buckinghamshire June 2015

ABSTRACT

MOLA was commissioned to carry out a detailed magnetometer survey on land near Quainton Road, Waddesdon, Buckinghamshire. The survey identified a few anomalies of possible archaeological interest, including three which were very tentatively interpreted as kilns. Ridge and furrow of medieval to early post-medieval date was also identified.

1 INTRODUCTION

MOLA was commissioned by LMR Designs to conduct a detailed magnetometer survey on land near Quainton Road, Waddesdon, Buckinghamshire (NGR SP 746 171; Fig 1). The fieldwork was undertaken on 1st June 2015, and covered c 3ha of land.

2 BACKGROUND

2.1 Topography and geology

The survey area lies on the northern threshold of Waddesdon village. The survey covered two pasture fields separated by a hedgerow, though the eastern field only partially lies within the study area. These fields are encompassed by housing to the south and west and pasture fields to the north and east (Fig 1).

The survey is situated on a gentle, north facing slope at an elevation of c 95m aOD. The geology is mapped as Amphill Clay with no superficial drift deposits (BGS 2015).

2.2 Historical and archaeological background

The survey area is positioned away from the historic core of the village, in which there is a concentration of Grade I and II listed buildings, and lies almost a mile north-east of Waddesdon Manor. The Buckinghamshire Historic Environment Record (HER) lists no known archaeology in the fields immediately surrounding the survey area. However, the line of Akeman Street Roman road is located c 400m to the south and a further 200m to the south, at Waddesdon C of E School, excavations have discovered late Iron Age/early Roman bedding trenches and post-medieval sunken-floored buildings (Albion Archaeology 2006).

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).

An independent network of 30m grid squares was established across each of the fields to be surveyed. The grids 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 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 Chartered Institute for Archaeologists (HE 2015; ClfA 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 plots at a range of +4nT (black) to -4nT (white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2) and are shown with an interpretative overlay in Figure 3. Plots of the unprocessed survey data are presented in Figure 4.

4 SURVEY RESULTS

The survey has detected a series of weak parallel linear anomalies representing medieval or early post-medieval ridge and furrow, and a few other anomalies which are poorly diagnostic but could represent archaeological features. Anomalies of modern origin are also present in the survey data.

In the western field there is a small annular anomaly, c 5-10nT in strength, which surrounds a negative core. Fifty metres north-east of this there are two broadly similar anomalies conjoined into the shape of an '8'. The cause of these three anomalies is uncertain, and they are not a type which is commonly detected by magnetometer survey. One possible, although fairly speculative, interpretation might be that they represent the firing chambers of small kilns, with the magnetic response arising from the fired clay structure of the kiln wall.

In the eastern half of the western field there is a moderately strong positive anomaly (c 50-100nT) that is almost square in shape and measures c 2m across. This may represent a concentration of ceramic material (brick / fired clay) within a pit, or it could arise from a large, deeply-buried ferrous object.

The data from both fields display a series of weak linear anomalies which denote the presence of medieval ridge and furrow cultivation aligned north-north-east to south-south-west. The fact that these anomalies are weak and fragmentary indicates that the geology of the survey area is not particularly favourable for magnetic survey, not having supported the development of clear and uniform magnetic contrasts between the subsoil of the ridges and the ploughsoil filling the furrows.

One weak curvilinear anomaly has been detected in the centre of the western field, aligned almost perpendicular to the ridge and furrow. It could represent a section of ditch of indeterminate date, or it could arise from a band of weakly magnetic material in the underlying geology.

Two linear anomalies of probable modern origin have also been detected. One is an intense anomaly of alternating polarity which represents a pipe running across the south-eastern corner of the western field. The other is a much more tenuous linear anomaly, aligned north to south through the western end of the field, which is comparable to the typical magnetic response from field drains.

Small, discrete dipolar anomalies have been detected widely across the survey area, indicating a scatter of mostly small pieces of ferrous scrap and other magnetic debris within the ploughsoil. One dense concentration of such anomalies at the south-eastern edge of the western field was seen to coincide with a surface scatter of granite and other hardcore around a gateway. A weak linear anomaly partially encloses this feature and may indicate a recent boundary.

One very large dipolar anomaly at the northern edge of the western field corresponds to a modern cattle trough. Some large ferrous halos have also been detected around the field margins, arising from adjacent fences, gates and buildings.

5 CONCLUSION

The survey has detected a few anomalies of possible archaeological origin which could represent a ditch, a pit and, arguably, a group of kilns. Anomalies relating to medieval or early post-medieval ridge and furrow cultivation have also been detected widely across the survey area.

Although widespread, the ridge and furrow anomalies are mostly very weak and disjointed. This indicates that the geology of the survey area is not particularly favourable for magnetic survey and has not supported the formation of uniformly strong magnetic contrasts between natural and humanly-disturbed soils. It is important to note this limitation, as it may mean that the results presented here do not provide a fully comprehensive indication of all archaeology that may be present on the site.

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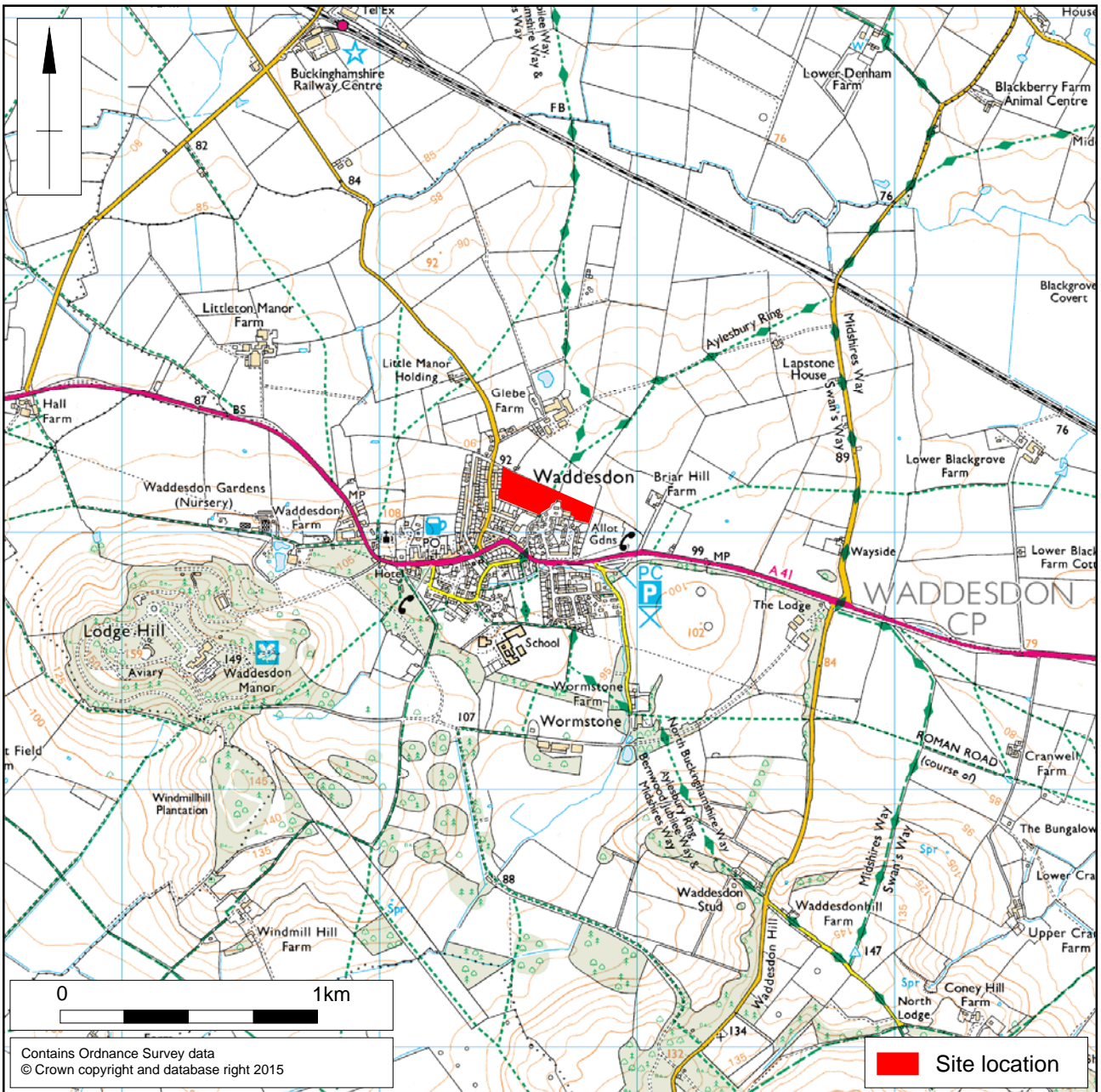
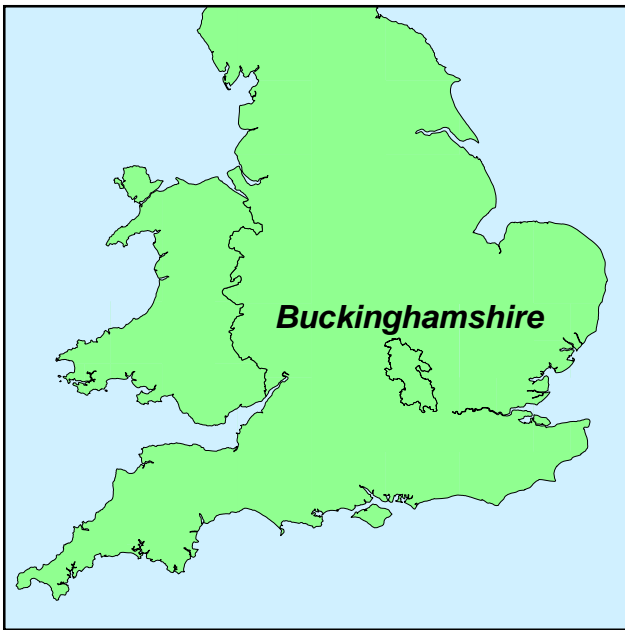
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MOLA
19 June 2015



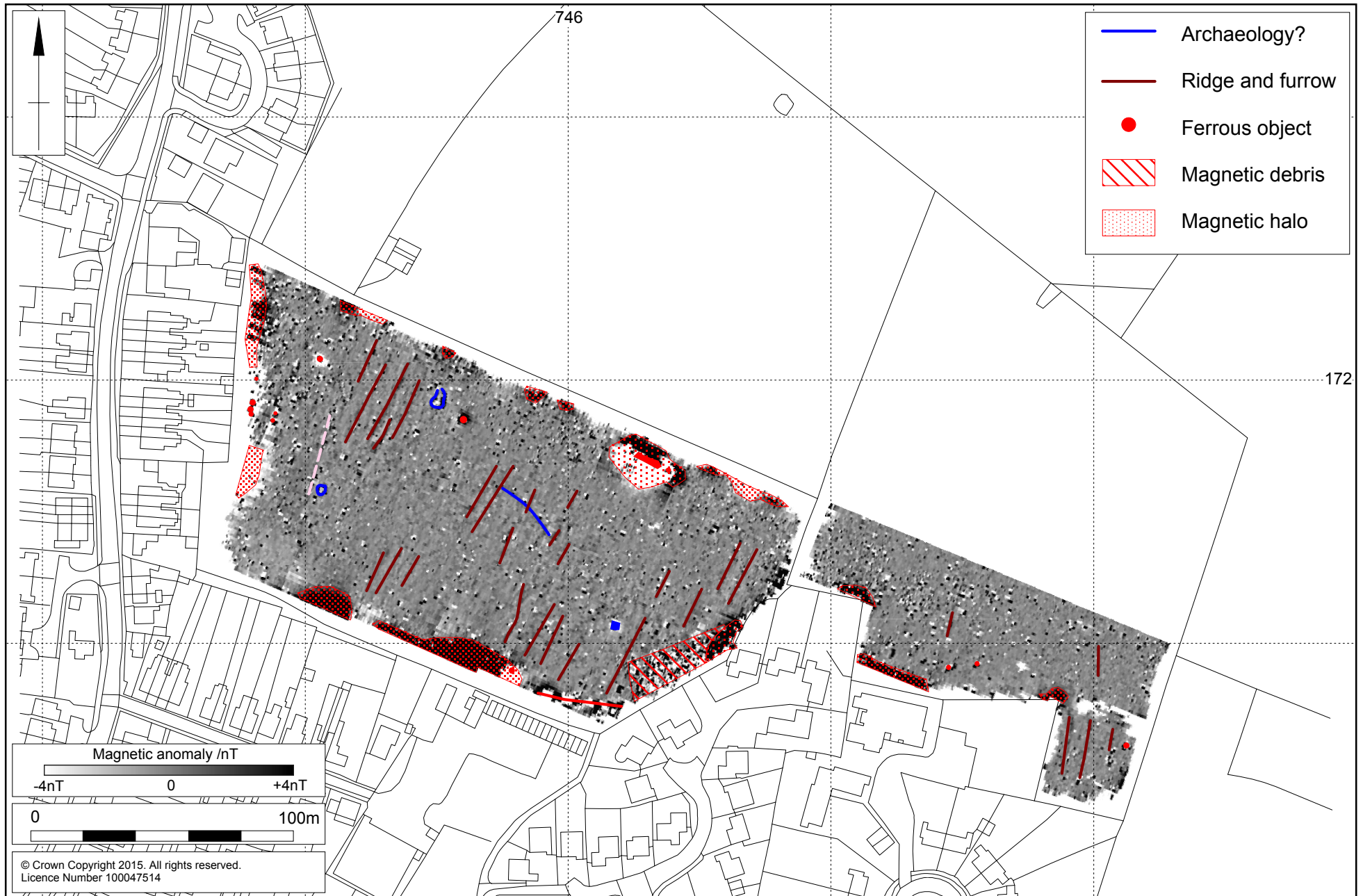
Scale 1:25,000

Site location Fig 1



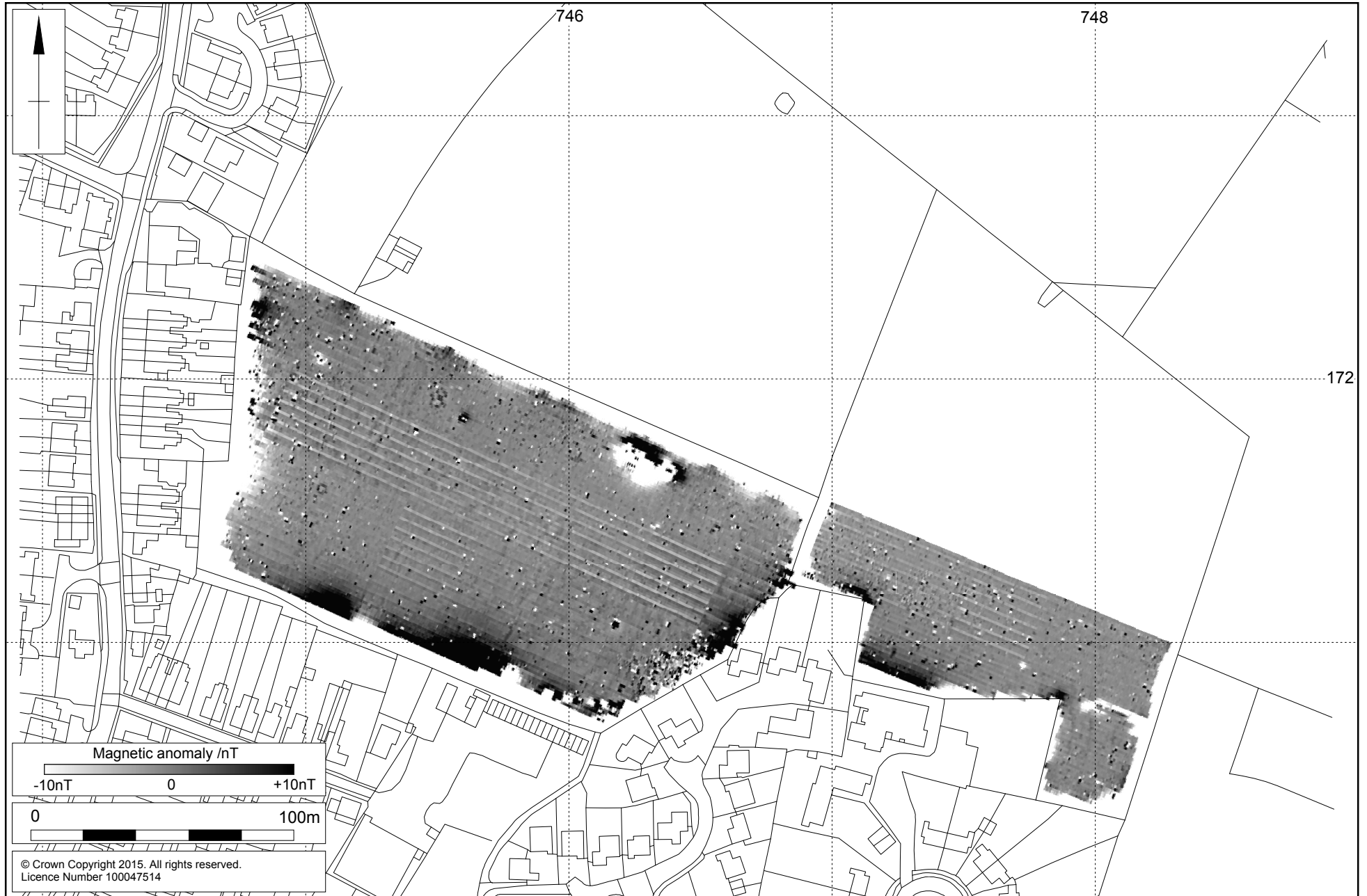
Scale 1:2000

Magnetometer survey results Fig 2



Scale 1:2000

Magnetometer survey interpretation Fig 3



Scale 1:2000

Unprocessed magnetometer data Fig 4

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