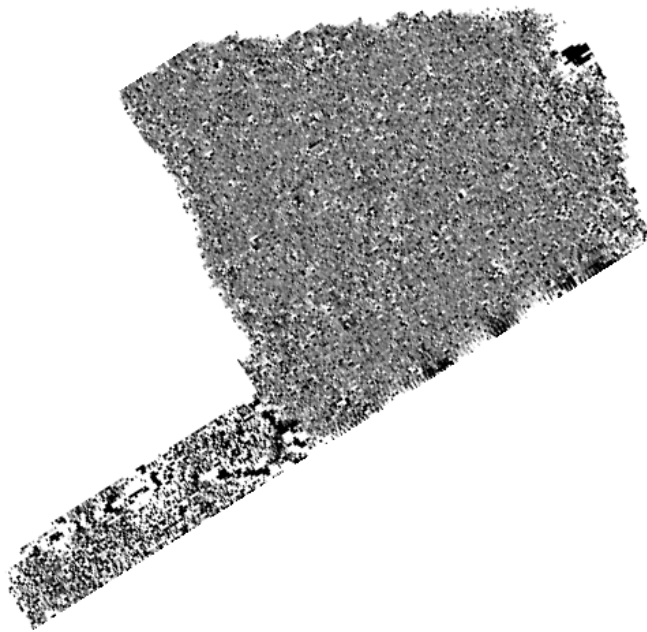




# Northamptonshire Archaeology

## Archaeological Geophysical Survey on land north of Bedford Road, Houghton Regis Bedfordshire



### Northamptonshire Archaeology

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Report 13/13

January 2013



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## QUALITY CONTROL

	Print name	Signed	Date
Checked by	Pat Chapman	<i>PC</i>	17/01/2013
Verified by	Mark Holmes	<i>MH</i>	15/01/2013
Approved by	Andy Chapman	<i>AC</i>	16/01/2013

**OASIS REPORT FORM**

PROJECT DETAILS		OASIS No: 140770	
Project name	Archaeological Geophysical Survey on land north of Bedford Road, Houghton Regis, Bedfordshire		
Short description	Northamptonshire Archaeology was commissioned by CgMs Consulting to undertake a magnetometer survey of 7ha of land, to the north of Bedford Road, Houghton Regis, Bedfordshire. The survey identified one feature of indeterminate archaeological or geological origin, two modern pipes, and a scatter of modern debris in the ploughsoil.		
Project type	Geophysical survey		
Site status	None		
Previous work	None		
Current Land use	Arable		
Future work	Unknown		
Monument type/ period	Indeterminate feature and modern ground disturbance		
Significant finds	None		
PROJECT LOCATION			
County	Bedfordshire		
Site address	Land north of Bedford Road, Houghton Regis		
Study area	7 hectares		
OS Easting & Northing	501562 224485		
Height OD	114-124m aOD		
PROJECT CREATORS			
Organisation	Northamptonshire Archaeology (NA)		
Project brief originator	CgMs Consulting		
Project Design originator	NA		
Director/Supervisor	Ian Fisher		
Project Manager	Mark Holmes		
Sponsor or funding body	CgMs Consulting Ltd		
PROJECT DATE			
Start date	17 December 2012		
End date	19 December 2012		
ARCHIVES	Location	Content	
Physical			
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report		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 north of Bedford Road, Houghton Regis, Bedfordshire		
Serial title & volume	Northamptonshire Archaeology Reports 13/13		
Author(s)	Carol Simmonds		
Page numbers	3 pages of text, and 3 accompanying figures		
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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY  
ON LAND NORTH OF BEDFORD ROAD, HOUGHTON REGIS  
BEDFORDSHIRE  
January 2013**

*ABSTRACT*

*Northamptonshire Archaeology was commissioned by CgMs Consulting to undertake a magnetometer survey of 7ha of land, to the north of Bedford Road, Houghton Regis, Bedfordshire. The survey identified one feature of indeterminate archaeological or geological origin, two modern pipes, and a scatter of modern debris in the ploughsoil.*

**1 INTRODUCTION**

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting Ltd to undertake an archaeological geophysical survey on land north of Bedford Road, Houghton Regis, Bedfordshire (centred NGR 501562 224485, Fig 1). The fieldwork comprised a detailed gradiometer survey, undertaken between 17th and 19th December 2012.

**2 BACKGROUND**

The survey area comprises three arable fields, totalling 7ha, situated on high ground beyond the northern edge of Houghton Regis. Its western boundary is defined by Bedford Road; it is bounded to the north by fields and the hamlet of Bidwell, and to the south and east by the modern village expansion of Houghton Regis. The topsoil had been heavily disturbed during ploughing as there were large quantities of scrap metal on the surface. There were also deep water-filled depressions which were not initially visible on the surface. At the time of survey the fields were under crop.

The site stands at approximately 114-124m aOD with the ground rising gradually away from Bedford Road.

The underlying bedrock comprises chalk of the West Melbury Marly Chalk Formation ([www.bgs.ac.uk/geoindex](http://www.bgs.ac.uk/geoindex)).

A rapid assessment of the available historic maps ([www.old-maps.co.uk](http://www.old-maps.co.uk)) indicated that the survey area was farmland characterised by small rectangular parcels of land. During the 19th and early 20th centuries there were low-scale housing or farm buildings fronting onto Bedford Road. These structures are indicated on modern Ordnance Survey mapping although they have been recently demolished. Houghton Regis rapidly expanded to the southern border of the survey area during the late 20th century.

### 3 METHODOLOGY

The geophysical survey was carried out in accordance with the guidelines of English Heritage and the Institute for Archaeologists (EH 2008 & Gaffney, Gater and Ovendon 2002).

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 gradiometer coverage comprised a total of 80 whole and partial 30m x 30m grid-squares. Each survey area was set-out using a combination of Leica System 1200 survey-grade GPS, and manual division into grid squares by tape measure and optical square. Each grid square was traversed at rapid walking pace in zigzag mode and magnetic data was recorded every 0.25m along traverses spaced at 1m intervals.

The data was analysed using Geoplot 3.00v software. Low (negative) magnetism is shown as white and high (positive) magnetism as black in the resultant greytone plots. Minimal manipulation was carried out on the data as the raw data is generally of high quality, ensuring that the data-set is uniform (EH 2008, 41-44). Thermal drift in the four fluxgate sensors may slightly alter the balanced level of the gradiometer over a survey, causing 'heading' errors visible as striping along traverses in the data. The 'Zero Mean Traverse' function was applied in order to bring the average level of each data line into a balanced mean of zero. This function retains the gradient of the magnetic field whilst reducing the mean so that each traverse is directly comparable.

The processed data was examined for weak magnetic anomalies under a variety of viewing regimes. The data is presented here in the form of a grey tone image, at a scale of +/- 4.0nT, rectified to the Ordnance Survey base (Fig 2). An interpretative plot is presented in Figure 3.

### 4 SURVEY RESULTS

The general character of the results suggests that the topsoil has a substantial amount of scattered ferrous material and other debris within it, giving a 'speckled' appearance to the data. The lack of well defined magnetic anomalies of probable archaeological origin across the survey area does not necessarily rule out the presence of archaeological features. Any features smaller than the sampling resolution of 1.0m x 0.25m would probably not be detected unless they were highly magnetised.

In the southern part of Field 1 there are two intensely magnetic linear anomalies with alternating polarities. These indicate the presence of modern service pipes.

There is a short, curving length of a positive magnetic feature crossing the northern of the two pipes. It could represent an archaeological feature, such as a segment of ditch, but its irregular form would be more consistent with a natural hollow or some other geological feature.

The data from around the two pipes is slightly more disturbed than that from elsewhere suggesting an increased amount of modern disturbance/debris. A second, more pronounced, area of modern/contemporary disturbance is situated in the south-western corner of Field 2, around the site of the demolished buildings fronting onto Bedford Road.

## 5 CONCLUSION

The gradiometer survey has detected evidence of modern ferrous material and other debris in areas of demolished structures. The noisy background data of the rest of the survey area suggests that the debris has been ploughed in from the areas of the demolished structures.

The survey has produced no evidence to indicate the presence of any significant archaeological remains, although the presence of small features or features with a very low magnetic signature underlying the debris in the topsoil cannot be entirely ruled out.

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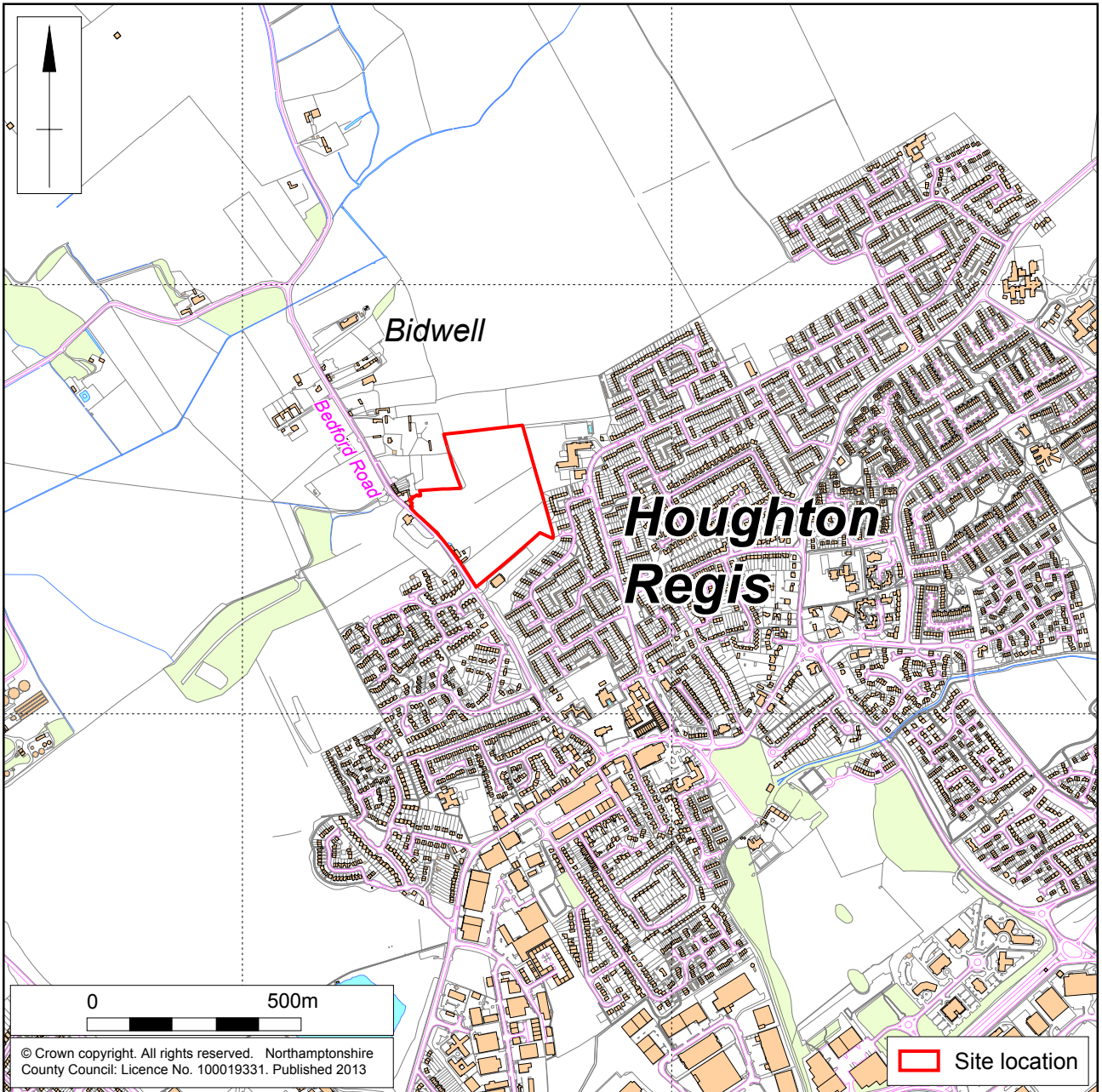
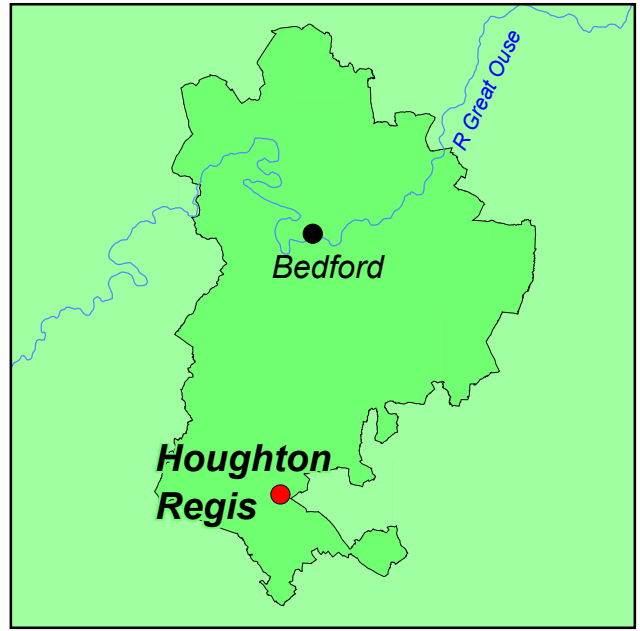
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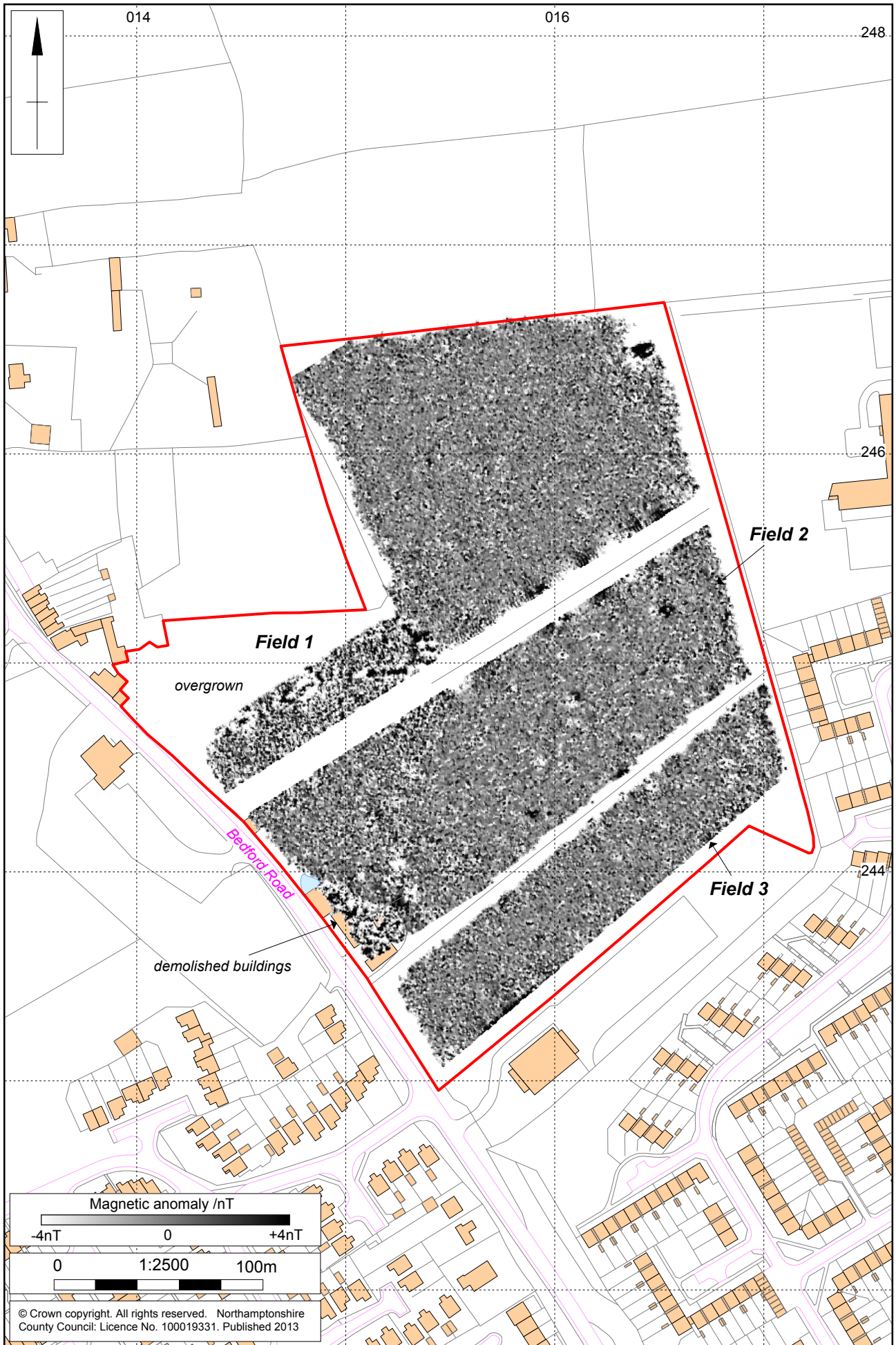
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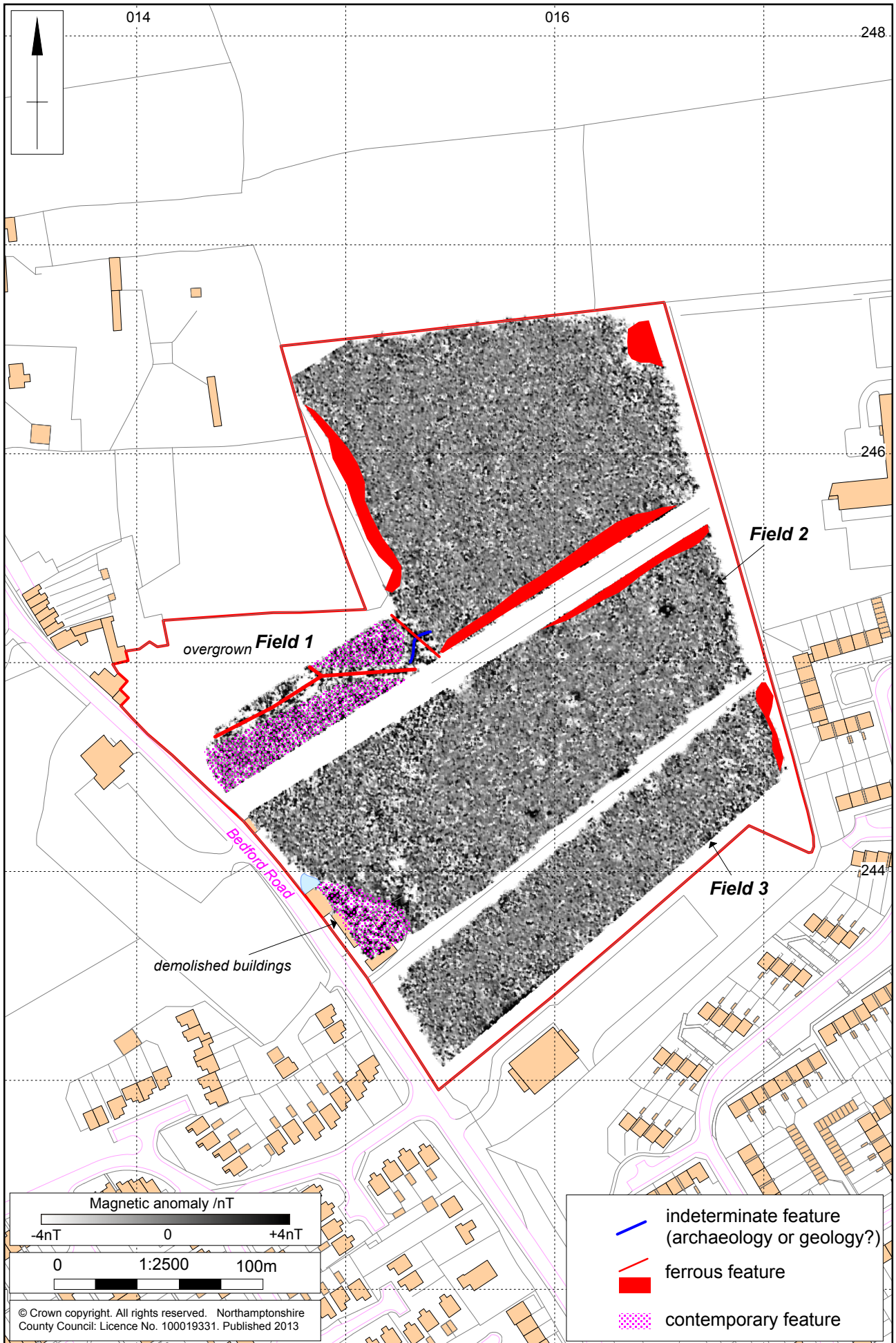


Scale 1:15,000

Site Location Fig 1









Northamptonshire County Council

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