

**Archaeological geophysical survey of land south of
Wooldale Road, Wootton
Northampton
December 2014**

Report No. 15/4

Authors: Adam Meadows
John Walford

Illustrators: Adam Meadows
John Walford



© MOLA Northampton
Project Manager: John Walford
Event number: ENN107839
NGR: SP 764 559

MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN 01604 700 493
www.mola.org.uk
sparry@mola.org.uk

**Archaeological geophysical survey of land south of
Wooldale Road, Wootton
Northampton
December 2014**

Report No. 15/4

Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	22/01/2015	Pat Chapman	John Walford	Andy Chapman	Client approval

Authors: Adam Meadows
John Walford

Illustrators: Adam Meadows
John Walford

© MOLA Northampton 2014

MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
sparry@mola.org.uk

STAFF

Project Manager: John Walford BSc MSc

Fieldwork: Adam Meadows BSc
Piotr Szczepanik BSc
James West BSc MA

Text: Adam Meadows
John Walford

Illustrations: Adam Meadows
John Walford

OASIS REPORT

PROJECT DETAILS		Oasis No. molanort1-199968
Project name	Archaeological geophysical survey of land south of Wooldale Road, Wootton, Northampton	
Short description	MOLA Northampton was commissioned to carry out a detailed magnetometer survey on land south of Wooldale Road, Wootton, Northampton. The survey identified a pair of Iron Age or Roman enclosures with associated roundhouses and other remains, and also a length of prehistoric pit alignment. The latter feature appears to be a continuation of an alignment previously identified to the north of the survey area. The survey also detected magnetic anomalies arising from medieval ridge and furrow earthworks.	
Project type	Geophysical survey	
Site status	None	
Previous work	None	
Current land use	Pasture	
Future work	Trial trench excavation	
Monument type/ period	Prehistoric pit alignment, Iron Age or Roman enclosures and medieval ridge and furrow	
Significant finds	None	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Wooldale Road, Wootton, Northampton	
Study area	c 2.7ha	
OS Easting & Northing	SP 764 559	
Height OD	c 72-78m aOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	Lesley-Ann Mather, Northamptonshire Archaeological Advisor	
Project design originator	MOLA Northampton	
Director/supervisor	Adam Meadows	
Project manager	John Walford	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	1 December 2014	
End date	1 December 2014	
ARCHIVES	Location	Content
Physical	N/A	
Paper	MOLA Northampton	Site survey records
Digital	ENN107839	Geophysical survey & GIS data
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological geophysical survey of land south of Wooldale Road, Wootton, Northampton, December 2014	
Serial title & volume	MOLA Northampton Reports 15/4	
Author(s)	Adam Meadows	
Page numbers	4	
Date	22 January 2015	

Contents

1	INTRODUCTION	1
2	BACKGROUND	1
	2.1 Location and geology	
	2.2 Historical and archaeological background	
3	METHODOLOGY	2
4	SURVEY RESULTS	2
5	CONCLUSION	3
	BIBLIOGRAPHY	4

Figures

Cover Magnetometer survey results (extract)

Fig 1	Site location	1:10,000
Fig 2	Magnetometer survey results	1:2000
Fig 3	Magnetometer survey interpretation	1:2000
Fig 4	Unprocessed magnetometer survey data	1:2000

Archaeological geophysical survey of land south of Wooldale Road, Wootton, Northampton December 2014

ABSTRACT

MOLA Northampton was commissioned to carry out a detailed magnetometer survey on land south of Wooldale Road, Wootton, Northampton. The survey identified a pair of Iron Age or Roman enclosures with associated roundhouses and other remains, and also a length of prehistoric pit alignment. The latter feature appears to be a continuation of an alignment previously identified to the north of the survey area. The survey also detected magnetic anomalies arising from medieval ridge and furrow earthworks.

1 INTRODUCTION

MOLA Northampton was commissioned by CgMs Consulting to undertake a detailed magnetometer survey on c 2.7ha of land to the south of Wooldale Road, Wootton, Northampton (NGR SP 764 559; Fig 1). The fieldwork was undertaken on the 1st December 2014 and has been recorded on the Northamptonshire Historic Environment Record (HER) under Event Number ENN107839.

2 BACKGROUND

2.1 Location and geology

The proposed development area comprises a single pasture field covering c 2.7ha (Fig 1). It lies immediately south of Wooldale Road and west of Quinton Road, with Wootton Brook forming its southern boundary. The surface of the field slopes down from 78m aOD to the north-eastern corner to 72m aOD in the south-western corner by the brook.

The underlying geology is predominantly Whitby Mudstone Formation (Upper Lias) with a small area to the north mapped as the Northampton Sand Formation. The southern part of the site along Wootton Brook is overlain by alluvium (BGS 2014).

2.2 Historical and archaeological background

The survey area lies within a zone of extensive Iron Age and Roman activity along the valley of the Wootton Brook (Fig 1). Within 300m north-east of the survey area a Roman villa was discovered and excavated by Northamptonshire Archaeology in 1999 and 2002. The villa was described as being well preserved but had no evidence of mosaics or other high status finds, suggesting it was relatively impoverished (Chapman *et al* 2005). The area immediately surrounding the villa contained a number of Iron Age enclosures and a late Bronze Age or early Iron Age pit alignment. Slightly further to the east, a complex of late Roman boundary ditches was excavated on the site now occupied by Caroline Chisholm School (Upson-Smith and Chapman 2004). Furthermore two Roman coin hoards were found in the surrounding area in 2003 (Chapman *et al* 2005).

One hundred and eighty hectares of land to the east of the survey area was investigated by Northamptonshire Archaeology in 2007. A programme of geophysical survey and trial trench excavation resulted in the identification of scattered Iron Age features to the south

of Caroline Chisholm School and a separate complex of Iron Age enclosures on the south side of Wootton Brook, c 900m south-east of the present survey area (Butler 2008, Carlyle 2008).

Located 750 metres east of the survey area an Anglo-Saxon burial was excavated in 2003 uncovering a single mature female with grave goods including a copper alloy pin, an amber bead, a pendant and an iron whittle tang knife (Chapman *et al* 2005).

The survey area lies c 400m south-east of the historic core of Wootton. It contains extant earthworks of ridge and furrow, and is thought to have been in agricultural use throughout the medieval and post-medieval periods.

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 within the field to be surveyed. The grid were 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 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 English Heritage (EH 2008; IfA 2011) .

The survey data was largely processed using Geoplot 3.00v software. Striping, caused by slight sensor imbalances, was removed using the 'Zero Mean Traverse' function. 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). An interpretive overlay is presented in Figure 3, and a plot of the unprocessed survey data is presented in Figure 4.

4 SURVEY RESULTS

The survey has detected a set of positive linear and curvilinear magnetic anomalies which represent a complex of archaeological remains lying towards the eastern end of the survey area. The main elements within this complex are two sub-rectangular enclosures which, based on their shapes, would appear to be of Iron Age or Roman date. The southern enclosure is approximately 30 metres wide and has three gaps in its perimeter: two of these, however, may represent disturbance caused by modern pipelines. Only the northern gap, which is flanked by expanded and enhanced ditch terminals, is convincing as an original entrance. The second enclosure, located to the north-west of the first, measures approximately 35m wide and has square corners. Its full dimensions are unknown as it continues outside the survey area, extending northwards beneath Wooldale Road.

East of the northern enclosure lies a near complete circular anomaly that may represent a roundhouse. Less convincing curvilinear anomalies on the other side of the enclosure may represent remains of further structures. South of these, running along the southern edge of the northern enclosure, are two linear anomalies which appear to represent the

side ditches of a trackway aligned roughly east to west between the two enclosures. Several other linear anomalies have been detected, and these represent miscellaneous ditches of indeterminate function

Near the north-western corner of the survey area there is a linear anomaly, aligned south-west to north-east, which has discrete points of magnetic enhancement along its length. Both the form and position of this anomaly suggest that it may represent a continuation of the late Bronze Age to early Iron Age pit alignment which was detected c 300m to the north during a geophysical survey of the Wootton Fields Roman villa site (Chapman 2000, Chapman et al 2005).

Across the greater part of the survey area there are a series of weak linear anomalies which represent the medieval ridge and furrow earthworks. The furrows are aligned from north to south, perpendicular to the valley side, allowing for improved drainage towards the stream located to the south.

The data from the southernmost part of the survey area, beyond the limit of the ridge and furrow, is generally quieter than that from elsewhere. This is probably due to the relatively non-magnetic alluvial soils along the floodplain of the stream. A weak curvilinear feature has been detected in this area, coinciding with a hollow alongside the western boundary of the field. The shape and location of this strongly suggests that it marks the dried up remains of a truncated meander or oxbow lake.

The survey has also detected three modern pipe or cable trenches, all of which cut through the main complex of archaeological remains. One of these is represented by a very intense magnetic anomaly which runs from north to south past the southern enclosure. A second appears as a diffuse linear anomaly of alternating magnetic polarity which runs from west to east, becoming increasingly weak as it does so. The drop in intensity of this anomaly suggests that this pipeline may have been laid on a level and thus more deeply buried in the east where the ground surface rises upwards. The third is represented by a thin negative linear anomaly with evenly spaced dipoles along its length. This probably represents a non-magnetic pipe or cable with metal collars or other fittings generating the strong dipolar responses.

5 CONCLUSION

The survey has detected two ditched enclosures of probable Iron Age or Roman date which lie partially within the eastern half of the survey area. These are associated with possible roundhouses, a trackway and various other ditches and form part of a larger complex of remains which extends northwards beneath Wooldale Road. Part of a probable late Bronze Age or early Iron Age pit alignment has also been detected, and it is thought that this may be a continuation of the pit alignment previously detected to the north, on the site of the Wootton Roman villa (Chapman 2005).

BIBLIOGRAPHY

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

BGS 2014 *Geoindex*, <http://www.bgs.ac.uk/geoindex/home.html>, British Geological Survey, consulted December 2014

Butler, A, 2008 *Geophysical Survey of Land at Wootton Northampton*, Northamptonshire Archaeology, report **08/026**

Carlyle, S, 2008 *An archaeological evaluation of land near Wootton, Northampton, October 2007 to January 2008*, Northamptonshire Archaeology, report **08/011**

Chapman, A, 2000 *Archaeological recording of a Roman Villa at Wootton Fields, Northampton: January-February 1999. Assessment Report and Updated Research Design*, Northamptonshire Archaeology report

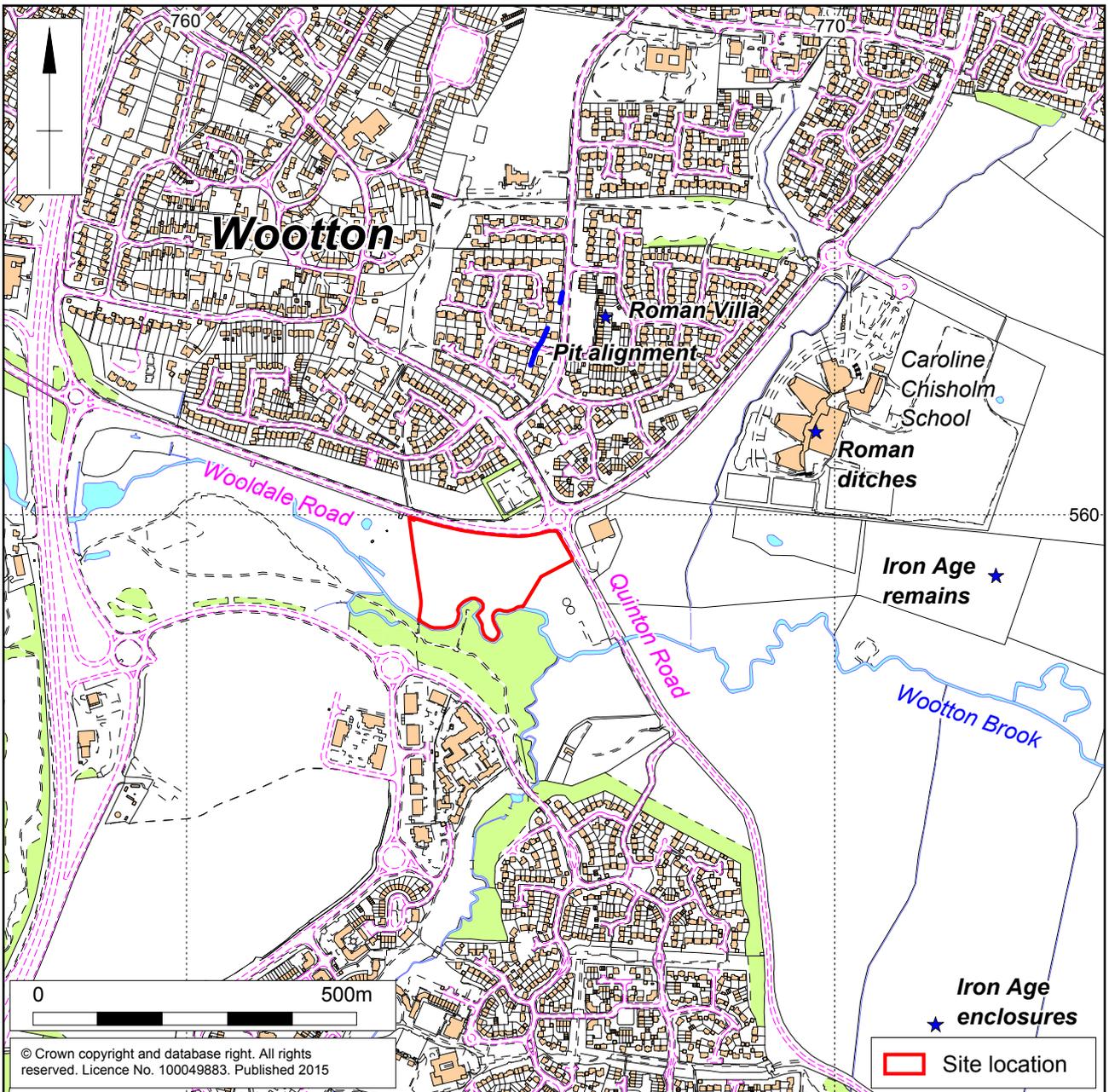
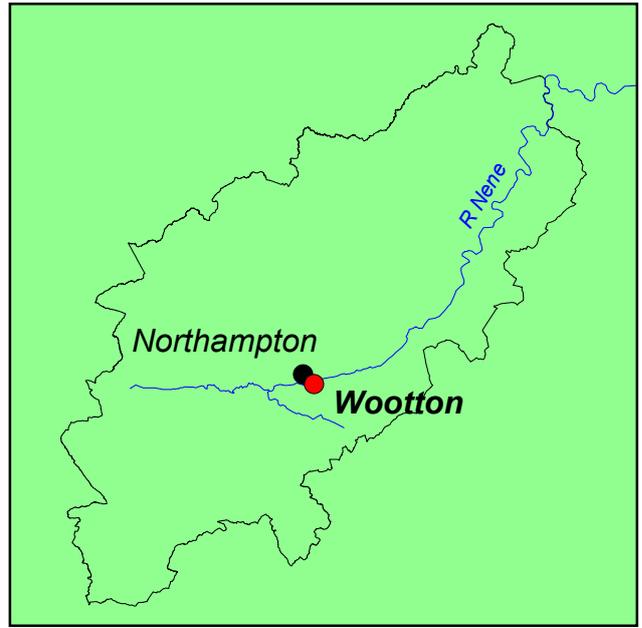
Chapman, A, and Thorne, A, 2004 *Further excavation at Wootton Fields Roman Villa, Northampton 2002*, Northamptonshire Archaeology report

Chapman, A, Thorne, A, and Upson-Smith, T, 2005 A Roman villa at Wootton Fields, Northampton, *Northamptonshire Archaeology*, **33**, 79-112

EH 2008 *Geophysical Survey in Archaeological Field Evaluation*, English Heritage

IfA 2011 *Standard and Guidance for Archaeological Geophysical Survey*, Institute for Archaeologists

Upson-Smith, T, and Chapman, A, 2004 *Archaeological watching brief and excavation at Wootton Fields Centre for Learning, Northampton, June - August 2003*, Northamptonshire Archaeology report



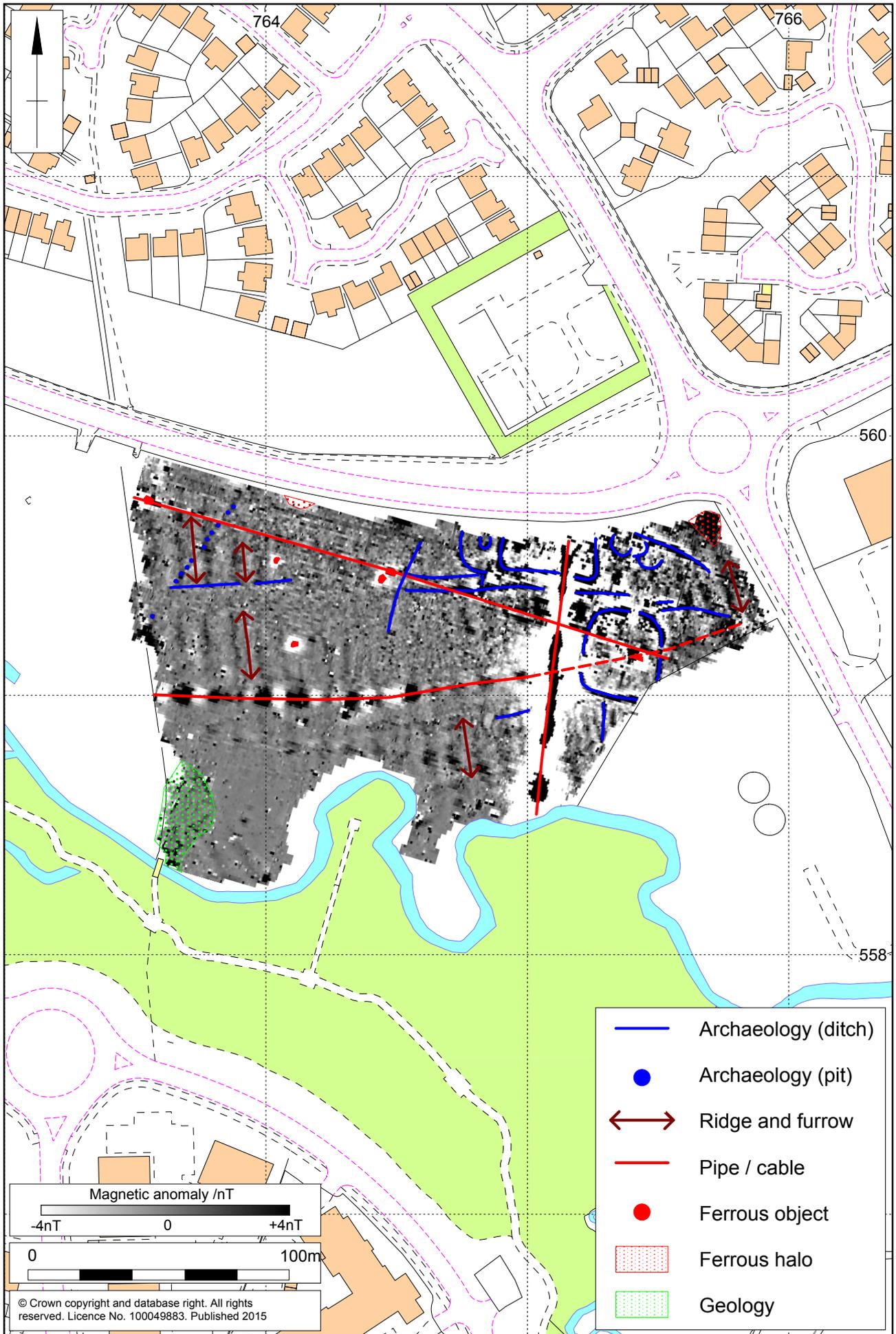
Scale 1:10,000

Site location Fig 1



1:2000

Magnetometer survey results Fig 2



1:2000

Magnetometer survey interpretation Fig 3



1:2000

Unprocessed magnetometer data Fig 4

MOLA



MOLA
Bolton House
Wootton Hall Park
Northampton
NN4 8BN
01604 700 493
www.mola.org.uk
business@mola.org.uk