

**Archaeological geophysical survey at
Hollow Lane, Chelmsford,
Essex
May 2014**

Report No. 14/110

Authors: John Walford
Garreth Davey

Illustrator: John Walford



© MOLA Northampton
Project Manager: Steve Parry
Site Code: None
NGR: TL 687 093

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

Archaeological geophysical survey at Hollow Lane, Chelmsford Essex May 2014

Report No. 14/110

Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	19/05/2014	Charlotte Walker	Mark Holmes	Steve Parry	Client approval

Authors: John Walford
Garreth Davey

Illustrator: 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: Mark Holmes BA MA MifA

Fieldwork: Garreth Davey BA
Adam Meadows BSc

Text: John Walford MSc
Garreth Davey

Illustrations: John Walford

OASIS REPORT

PROJECT DETAILS		Oasis No. molanort1-179349
Project name	Archaeological geophysical survey at Hollow Lane, Chelmsford, Essex	
Short description	MOLA was commissioned by CgMs Consulting to carry out a detailed magnetometer survey on land at Hollow Lane, Chelmsford, Essex. The survey identified a few minor anomalies, but nothing that could be confidently interpreted as representing archaeological features.	
Project type	Geophysical survey	
Site status	None	
Previous work	Archaeological desk-based assessment (Clarke 2014)	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	None	
Significant finds	None	
PROJECT LOCATION		
County	Essex	
Site address	Hollow Lane, Chelmsford	
Study area	c 2.3ha	
OS Easting & Northing	TL 6877 0935	
Height OD	c 45-48m AOD	
PROJECT CREATORS		
Organisation	MOLA Northampton	
Project brief originator	CgMs Consulting	
Project design originator	MOLA Northampton	
Director/Supervisor	Garreth Davey	
Project Manager	Mark Holmes	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	9 May 2014	
End date	10 May 2014	
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 Hollow Lane, Chelmsford, Essex, May 2014.	
Serial title & volume	MOLA Northampton Reports 14/110	
Author(s)	John Walford and Garreth Davey	
Page numbers	3	
Date	19 May 2014	

Contents

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

Figures

Cover	Magnetometer survey results	
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 data	1:2000

Archaeological geophysical survey at Hollow Lane, Chelmsford, Essex May 2014

ABSTRACT

MOLA was commissioned by CgMs Consulting to carry out a detailed magnetometer survey on land at Hollow Lane, Chelmsford, Essex. The survey identified a few minor anomalies, but nothing that could be confidently interpreted as representing archaeological features.

1 INTRODUCTION

MOLA was commissioned by CgMs Consulting to conduct a geophysical survey on land at Hollow Lane, Chelmsford, Essex (NGR TL 6877 0935; Fig 1). A detailed magnetometer survey was undertaken in May 2014, and covered a total area of approximately 2.3ha.

2 BACKGROUND

2.1 Location and geology

The survey area consisted of two small arable fields located south of Hollow Lane, on the northern edge of Chelmsford. The site is bounded by further arable fields to the north and east. The south and west is bounded by residential properties. At the time of the survey the fields were covered with a waist-high cereal crop.

The survey area lies on a very gentle slope down from east to west at 48m-45m aOD. The underlying bedrock has been mapped by the British Geological Survey as London Clay with overlying superficial deposits of head and Lowestoft Formation till (BGS 2014).

2.2 Historical and archaeological background

A desk-based assessment prepared by CgMs highlights several areas of archaeological interest within a 1km radius of the survey area (Clarke 2014). Early prehistoric activity is indicated by the findspots of several prehistoric flint tools and the site of a larger flint scatter. A Bronze Age enclosure with associated linear features is present 500m to the south-west of the survey area and scatters of Bronze Age pottery have also been found to its south-east. A conjectured Roman settlement lies 750m to the east of the site and evidence for a Roman kiln has been found 500m to the south.

The pattern of medieval and early post-medieval settlement in the area can be characterised as dispersed farmsteads and hamlets, as depicted on two late eighteenth century maps (Clarke 2014, figs 3-4). The nearest settlement focus is located less than 100m to the west and north-west of survey area, where both maps show a cluster of buildings named 'Bluehouse'. Several listed buildings occur in the same area today, including the Grade II* listed Chobbings Farmhouse. This has been interpreted as a late fourteenth century timber hall or kitchen block, perhaps subsidiary to a larger medieval

house (Beacon Planning 2009). Further afield, there are medieval moated sites 600m east and 1km north of the survey area (Clarke 2014).

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 in each of the fields to be surveyed. These 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 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 and by the Institute for Archaeologists (EH 2008; IfA 2011).

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 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. A separate plot of the unprocessed data is presented in Figure 4.

4 SURVEY RESULTS

The survey data contains only a few anomalies worthy of comment. In the western field there is an elongated, weakly positive anomaly lying parallel with the western field boundary and in the eastern field there is a short and very weak linear anomaly aligned roughly north-east to south-west. It is possible that these represent two sections of ditch, but neither is especially convincing as such. The former is less regular than a typical ditch anomaly would be, and the latter is too weak and indistinct to support any firm interpretation.

A random scatter of small dipolar anomalies occurs throughout the data, indicating small pieces of ferrous debris (horseshoes, ploughshares, etc) within the ploughsoil. The data also contains two ill-defined areas of magnetic noise, which may indicate slightly greater concentrations of magnetic debris; either ferrous scrap or more weakly magnetic materials such as brick rubble or burnt soil.

The data quality is lower than usual, due to the difficulty involved in holding the magnetometer straight and maintaining an even pace whilst surveying through tall crop. In particular, there are several spurious linear anomalies and chains of point anomalies along the edges of certain survey grids. The most obvious examples of these have been highlighted as data artefacts on the interpretation plot, to avoid any confusion with genuine anomalies.

5 CONCLUSION

The survey has identified two short linear anomalies, possibly representing sections of ditch, and two areas of weak magnetic disturbance. Nothing of certain archaeological significance has been found. However, the geology of the area is not especially favourable for magnetic survey (EH 2008, 15), and this caveat should be borne in mind when assessing the results presented here.

BIBLIOGRAPHY

BGS 2014 *Geoindex*, <http://www.bgs.ac.uk/geoindex/home.html>, British Geological Survey, consulted 17 May 2014

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

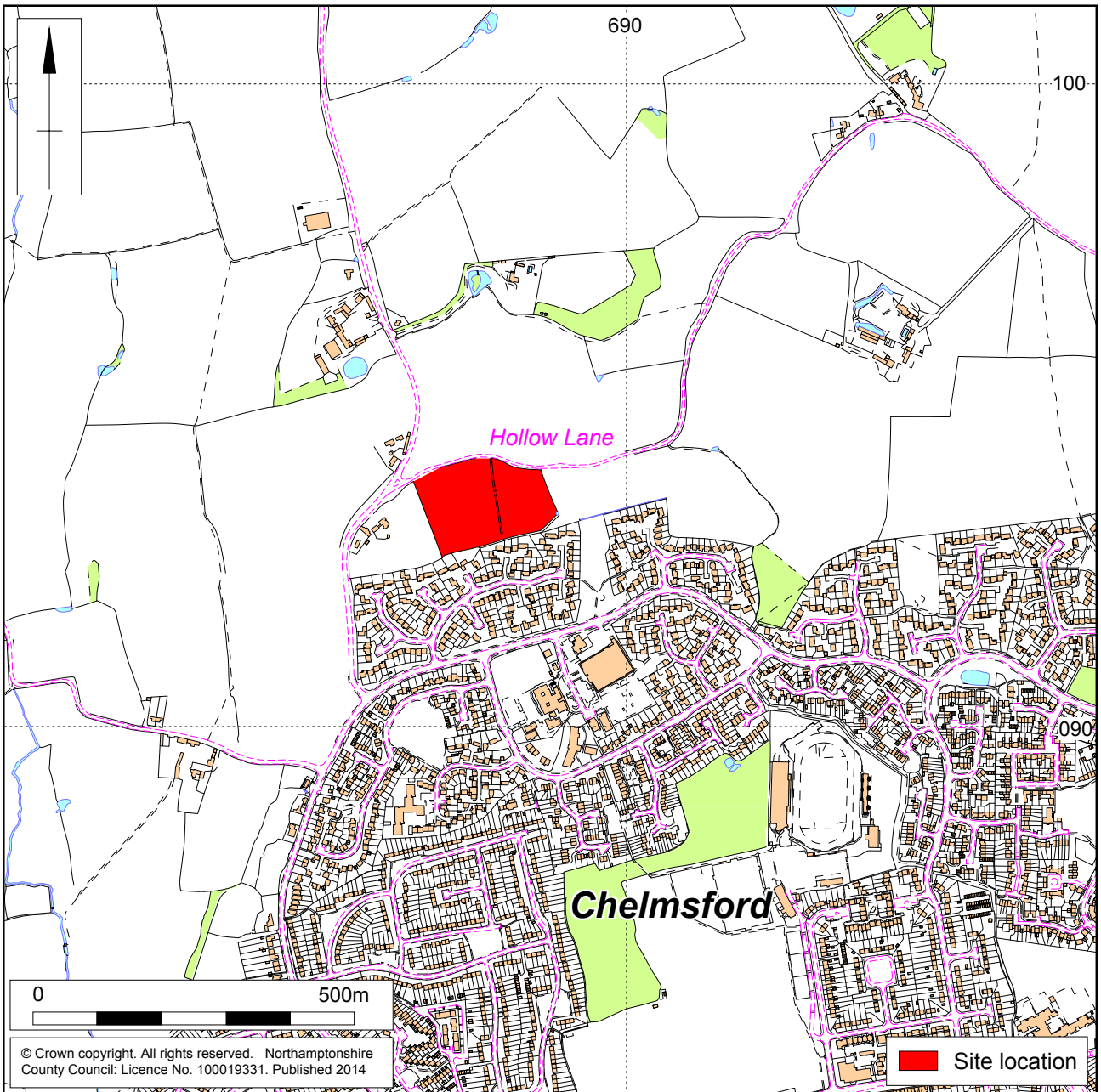
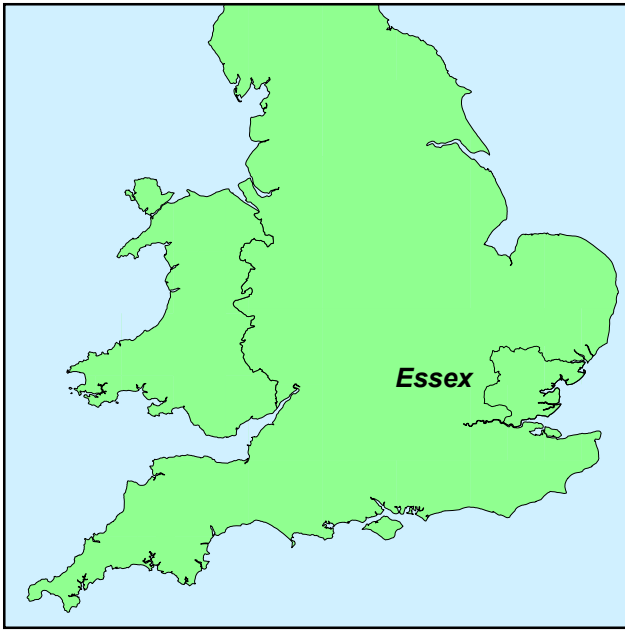
Beacon Planning 2009, *Listed buildings at Boreham and Broomfield, Chelmsford*, Beacon Planning, online at <https://www.chelmsford.gov.uk/policy-documents/ldf-evidence-base>

Clarke, C, 2014 *Archaeological desk-based assessment: Land at Hollow Way, Chelmsford, Essex*, CgMs report **RM/17030**

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

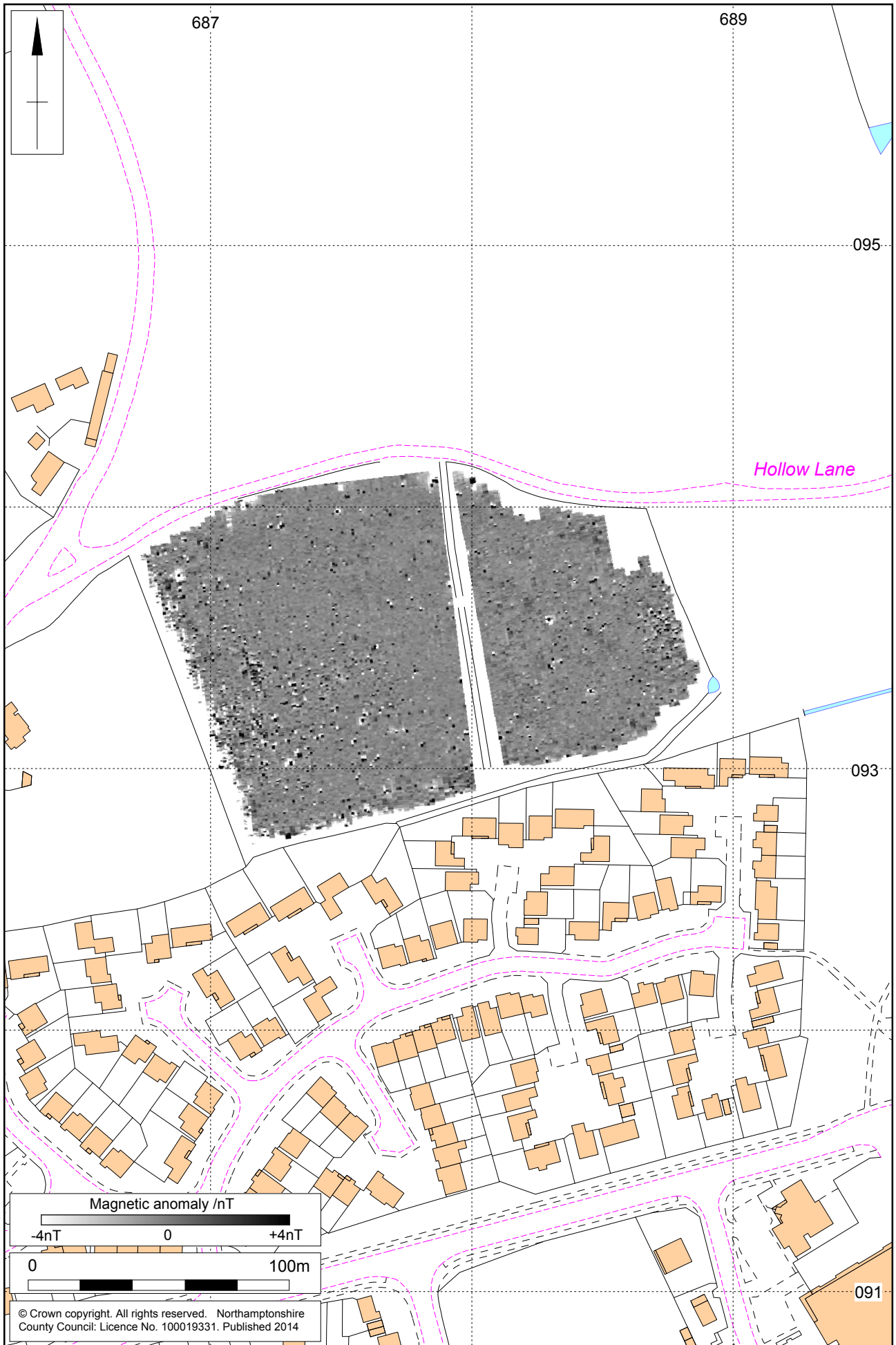
IfA 2011 *Standard and Guidance for Archaeological Geophysical Survey*, Institute for Archaeologists

MOLA
19 May 2014



Scale 1:10,000

Site location Fig 1



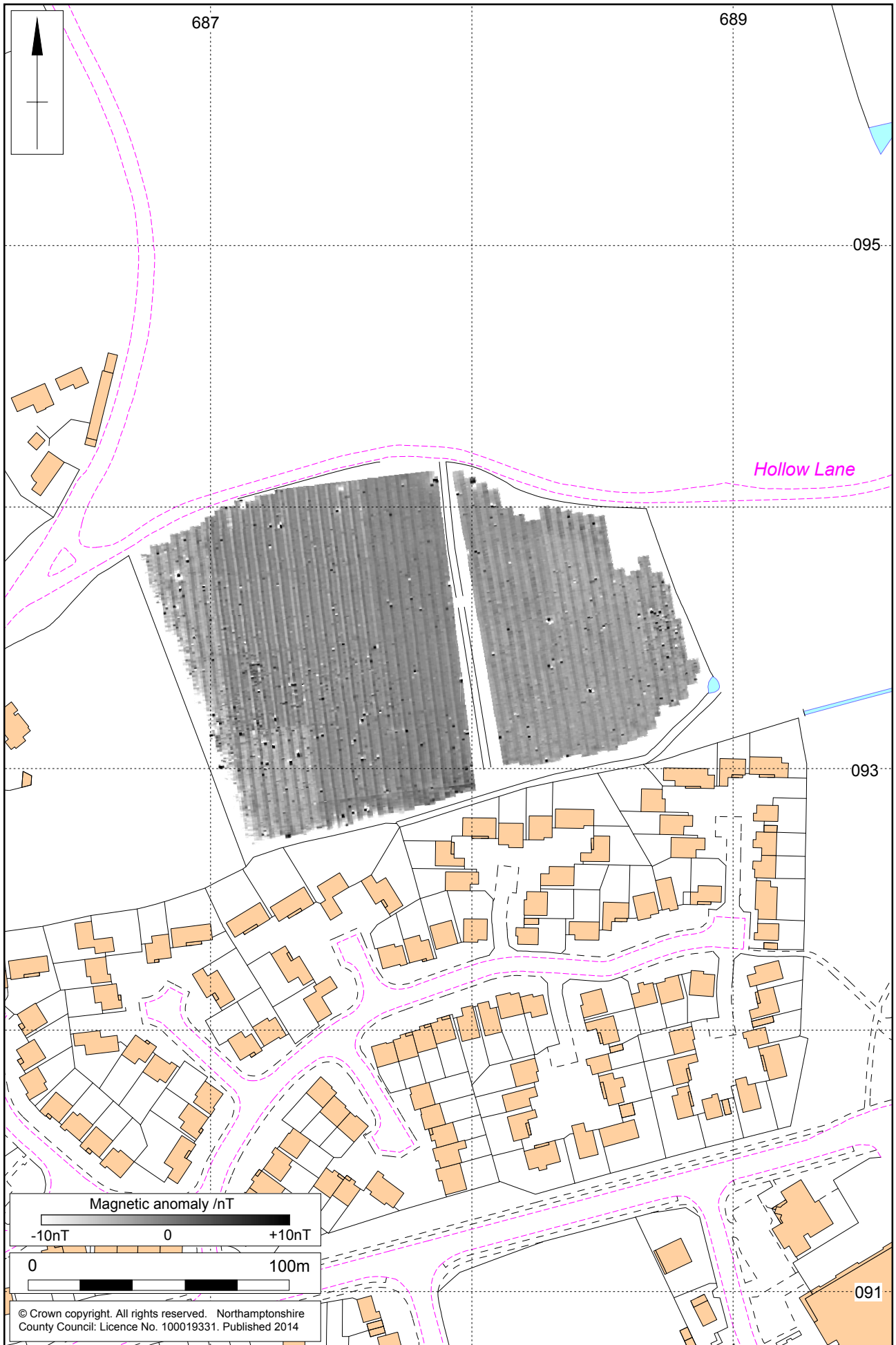
1:2000

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