



# Northamptonshire Archaeology

Archaeological Geophysical Survey on land at  
Halstead Road, Mountsorrel, Leicestershire  
X.A3.2010



## Northamptonshire Archaeology

2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE  
t. 01604 700493 f. 01604 702822  
e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)  
w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



Northamptonshire  
County Council

James Ladocha

Report 10/34

March 2010



**STAFF**

Project Manager	Adrian Butler BSc MA AlFA
Fieldwork	Ian Fisher BSc
	James Ladocha BA
	Paul Clements BA
	Jonathon Elston BA
	John Walford MSc
	Angela Warner BA
Text and illustrations	James Ladocha BA
	Adrian Butler

**QUALITY CONTROL**

	Print name	Signature	Date
Checked by	Pat Chapman	<i>PC</i>	03/03/10
Verified by	Adrian Butler	<i>AB</i>	03/03/10
Approved by	Andy Chapman	<i>AC</i>	03/03/10

**OAS/S REPORT FORM**

<b>PROJECT DETAILS</b>		
Project name	Archaeological Geophysical Survey on land at Halstead Road, Mountsorrel, Leicestershire X.A3.2010	
Short description	Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services to conduct archaeological geophysical survey on land at Halstead Road, Mountsorrel. Magnetometry of a 14.5ha area revealed evidence of ridge and furrow cultivation, previous field boundaries, a track and a demolished small agricultural building. Anomalies of a probable geological nature were also detected.	
Project type	Geophysical survey	
Site status	None	
Previous work	Unknown	
Current Land use	Arable	
Future work	Unknown	
Monument type/ period	Medieval Ridge-and-Furrow, previous field boundaries	
Significant finds	None	
<b>PROJECT LOCATION</b>		
County	Leicestershire	
Site address	Halstead Road, Mountsorrel	
Study area	14.5ha	
OS Easting & Northing	457400 314500	
Height OD	70m-80m AOD	
<b>PROJECT CREATORS</b>		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	University of Leicester Archaeological Services (ULAS)	
Project Design originator	Patrick Clay, ULAS	
Director/Supervisor	Ian Fisher	
Project Manager	Adrian Butler	
Sponsor or funding body	ULAS	
<b>PROJECT DATE</b>		
Start date	4 January 2010	
End date	19 February 2010	
<b>ARCHIVES</b>	<b>Location</b>	<b>Content</b>
Physical	X.A3.2010	
Paper	X.A3.2010	Site survey records
Digital	X.A3.2010	Geophysical survey & GIS data
<b>BIBLIOGRAPHY</b>		
	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological Geophysical Survey on land at Halstead Road, Mountsorrel, Leicestershire	
Serial title & volume	Northamptonshire Archaeology Reports 10/34	
Author(s)	James Ladocha	
Page numbers	5	
Date	03/03/2010	

## Contents

1	INTRODUCTION	1
2	TOPOGRAPHY AND GEOLOGY	1
3	ARCHAEOLOGICAL BACKGROUND	2
4	METHODOLOGY	2
5	SURVEY RESULTS	3
6	CONCLUSION	4
	BIBLIOGRAPHY	4

### Figures

Cover Survey in progress at Halstead Road

Fig 1 Site Location, 1:20,000

Fig 2 Magnetometer Survey Results, 1:2500

Fig 3 Magnetometer Survey Interpretation, 1:2500



ARCHAEOLOGICAL GEOPHYSICAL SURVEY ON LAND AT  
HALSTEAD ROAD, MOUNTSORREL, LEICESTERSHIRE

X.A3.2010

FEBRUARY 2010

ABSTRACT

*Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services to conduct archaeological geophysical survey on land at Halstead Road, Mountsorrel. Magnetometry of a 14.5ha area revealed evidence of ridge and furrow cultivation, previous field boundaries, a track and a demolished small agricultural building. Anomalies of a probable geological nature were also detected.*

**1 INTRODUCTION**

Northamptonshire Archaeology was commissioned by University of Leicester Archaeological Services (ULAS), to conduct an archaeological geophysical survey on land at Halstead Road, Mountsorrel, Leicestershire (NGR 457400 314500; Fig 1).

The objectives of the geophysical survey were to identify the presence or absence of archaeological remains within the proposed 14.5 hectare development area. The fieldwork consisted of an area magnetic gradiometer survey. Leicestershire Museums service provided an accession number for the site: X.A.3.2010.

**2 TOPOGRAPHY AND GEOLOGY**

The site is situated to the north of Halstead Road on the north-west of Mountsorrel (Fig 1). The investigation area covers three arable fields referred to as Field 1 in the west, Field 2 in the centre and Field 3 to the east (Fig 2). They are located on a gentle gradient from roughly 80m AOD in the north to 70m AOD in the south, with most of the area being around 75m AOD.

The survey area sits on boulder clay which mainly lies on Mercia mudstone, with an outcropping of Granodiorite on the north-east of the site, which had been quarried ([www.geodata.bgs.ac.uk/website/leicester/viewer.htm](http://www.geodata.bgs.ac.uk/website/leicester/viewer.htm)).

### 3 ARCHAEOLOGICAL BACKGROUND

There is no indication of any previous archaeological work having been carried out on the site. However, in the vicinity of the site there are a few points of interest. To the south-west of the site, archaeological work carried out prior to a quarry extension revealed a prehistoric enclosed settlement. Furthermore, to the north there is an undated circular ditched mound (<http://ads.ahds.ac.uk>). Directly to the north-east of the site there was a probable Roman building, possibly a villa, uncovered during granite quarrying in the 1880s. Further Roman finds were also uncovered, as well as some of late Iron Age date (<http://ads.ahds.ac.uk>).

### 4 METHODOLOGY

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 area was split into Fields 1, 2, and 3, with each of these divided into a network of contiguous, whole and partial, 30m x 30m grid squares. Field 1 consisted of 75 grids, Field 2, 55 grids, and Field 3, 65 grids. These were set out manually by tape measure and optical square with the baselines, and some off-sets, located by means of a Leica System 1200 dGPS. The instruments were carried at a brisk but steady pace through each grid, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per grid.

All fieldwork was carried out in accordance with the guidelines issued by English Heritage and by the Institute for Archaeology (EH 2008; Gaffney, Gater and Ovendon 2002).

The data was processed using Geoplot 3.00u software. Striping, occasionally caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function (ZMT) and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of a greyscale plot (scale +4nT

to -4nT black ~ white). This has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative plot has been produced and is shown overlain onto the data in Figure 3.

## 5 SURVEY RESULTS

A large proportion of the magnetic anomalies detected at Halstead Road relates to known mapped features and represent previous agricultural layouts ([www.old-maps.co.uk](http://www.old-maps.co.uk)). In Field 1, the positive linear anomaly running roughly east to west in the centre of the field relates to a previous field boundary (Figs 2 & 3). This appears on maps from 1885 onwards and still appears on modern Ordnance Survey maps, therefore, it was only recently removed as there was no evidence of this during the fieldwork. The strong magnetic anomaly in the centre of this feature indicates a ferrous object and may relate to a previous gateway. The weak linear magnetic anomaly to the north of this, orientated roughly east to west, also probably represents a previous field boundary (Figs 2 & 3). However, this is not indicated on any historical maps accessed. The chains of weak dipolar anomalies running north-west to south-east most likely represent land drains.

In Field 2, the long thin area of dipolar magnetic anomalies that run roughly north-west to south-east for two-thirds of the field (Figs 2 & 3) may represent an old track that appears on 1885 and 1887 maps of the area ([www.old-maps.co.uk](http://www.old-maps.co.uk)). The area of dipolar anomalies in the central eastern area of Field 2 (that is crossed by the possible track) may indicate an area of buried demolition (probably brick scatter) relating to a small structure that was in that area from at least 1903 to 1952 ([www.old-maps.co.uk](http://www.old-maps.co.uk)). The linear positive anomaly that crosses Field 2, roughly west to east, at this possible demolition area probably relates to a previous field boundary that occurs on 1903 and 1904 maps only ([www.old-maps.co.uk](http://www.old-maps.co.uk)). Therefore, both this and the possible structure may have been constructed at the same time. The linear positive magnetic anomaly to the north of the possible building and boundary, orientated roughly east to west, is also likely a previous field boundary (Figs 2 & 3). This does not appear on any of the historical maps accessed. However, it is perfectly aligned with the probable field boundary in Field 1, and is therefore assumed to be a field boundary that fell out of use prior to the 1885 map. The same is true of the linear anomaly to the north of this which is also likely a field boundary, however, this one relates to a probable boundary in Field 3.



In Field 3 there were two linear positive magnetic anomalies that are probable previous field boundaries. These are orientated roughly east to west, with one in the north of the field, where it narrows and is aligned with the boundary of the adjacent field and one detected in field 2, and one in the centre (Figs 2 & 3). They both appear on maps dating from 1885 to 1952 ([www.old-maps.co.uk](http://www.old-maps.co.uk)).

The alternate linear positive and negative bands detected in all three fields represent possible ridge and furrow cultivation. These are orientated roughly east to west in the south of the survey area, and roughly north to south in the north (Figs 2 & 3). This change in direction relates to the previous field boundaries.

The weak positive (on average between 3 and 9nT) 'pit like' anomalies detected across the site, particularly in Field 3 where they form rough linears, are likely geological in nature, resulting from the Granodiorite in the north-east of the site (Figs 2 & 3).

## 6 CONCLUSION

The magnetometer survey of land at Halstead Road detected evidence of possible ridge and furrow cultivation, and earlier field layouts, but no strong indication of archaeology. Evidence of previous field boundaries, a track, and the demolition of a small agricultural building were revealed, corresponding to known mapped features.

## BIBLIOGRAPHY

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

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

Gaffney, C, Gater, J, and Ovendon, S, 2002 *The Use of Geophysical Techniques in Archaeological Evaluations*, Institute of Field Archaeologists Technical Paper, **6**

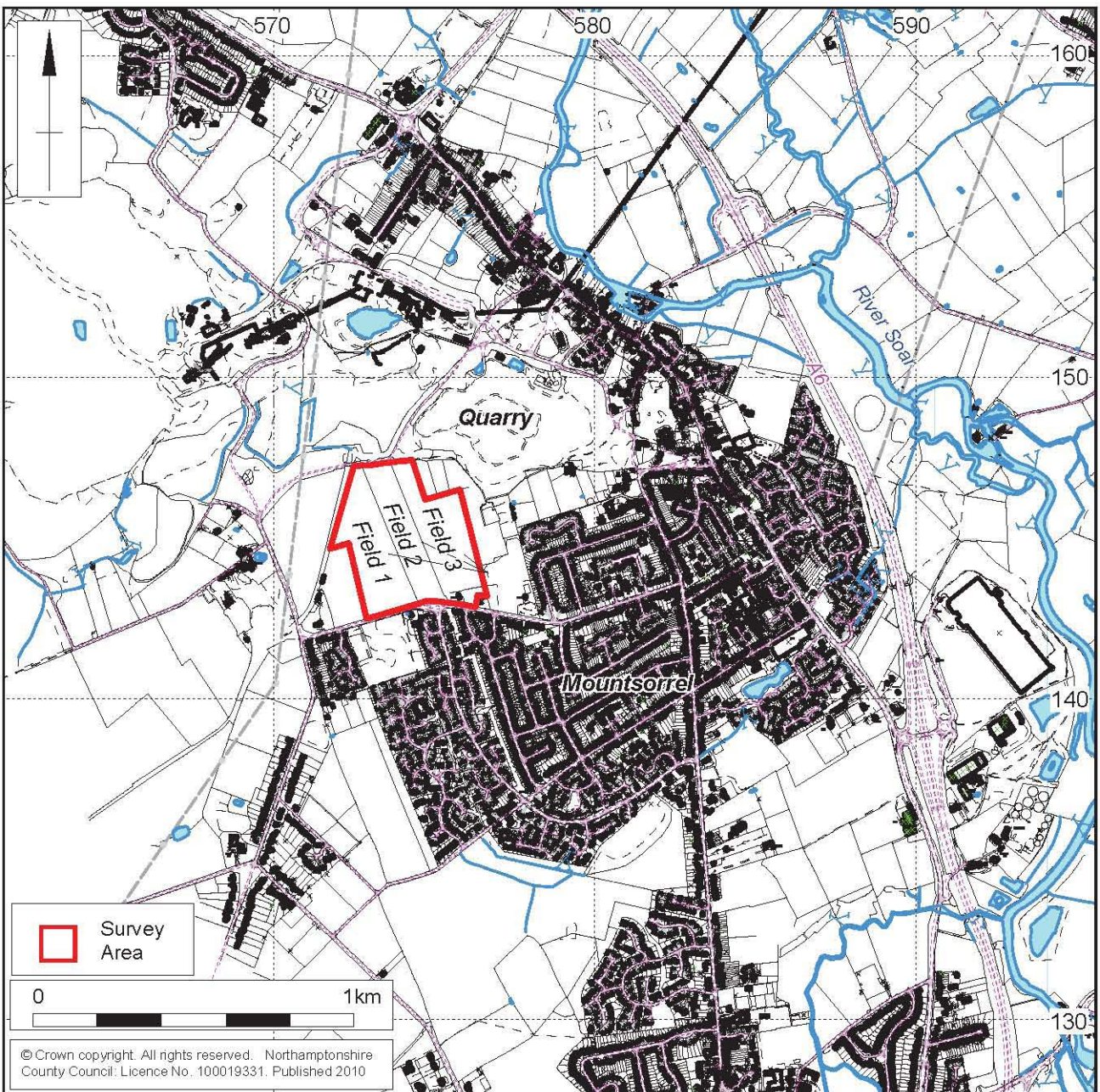


**Websites**

<http://ads.ahds.ac.uk> accessed 19/02/2010

[www.geodata.bgs.ac.uk/website/leicester/viewer.htm](http://www.geodata.bgs.ac.uk/website/leicester/viewer.htm), Geology of Great Britain, accessed 19/02/2010

[www.old-maps.co.uk](http://www.old-maps.co.uk), Landmark Information Group, accessed 17/02/2010



1:20,000

Site Location Fig 1













Northamptonshire County Council

# Northamptonshire Archaeology



**Northamptonshire Archaeology**  
2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE  
t. 01604 700493 f. 01604 702822  
e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)  
w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



Northamptonshire  
County Council