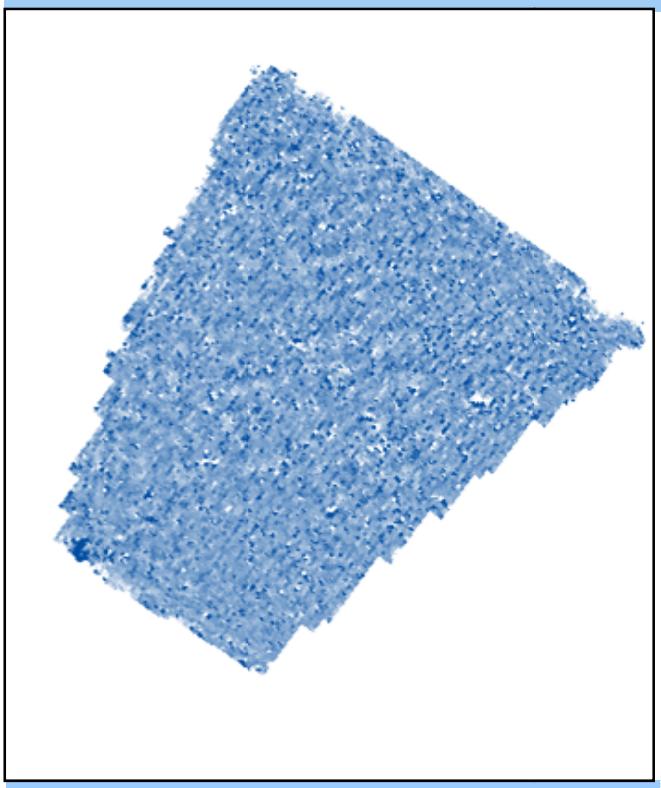
Northamptonshire Archaeology

Archaeological Geophysical Survey on land at Warwick Road, Littlethorpe, Leicestershire



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Report 10/55
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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey on land at Warwick Road, Littlethorpe, Leicestershire	
Short description	Northamptonshire Archaeology was commissioned by CgMs Consulting to conduct archaeological geophysical survey on land at Warwick Road, Littlethorpe. Although 3.8ha was not assessed, magnetometry of a 4.3ha area revealed a possible ditch and ridge-and-furrow.	
Project type	Geophysical survey	
Site status	None	
Previous work	Unknown	
Current Land use	Arable and pasture	
Future work	Possible survey of northern fields	
Monument type/ period	Medieval Ridge-and-Furrow, possible ditch	
Significant finds	None	
PROJECT LOCATION		
County	Leicestershire	
Site address	Warwick Road, Littlethorpe	
Study area	8.1ha (4.3ha surveyed)	
OS Easting & Northing	45460 29670	
Height OD	60m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	CgMs Consulting	
Project Design originator	Adrian Butler	
Director/Supervisor	James Ladocha	
Project Manager	Adrian Butler	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	1 March 2010	
End date	4 March 2010	
ARCHIVES	**Location**	**Content**
Physical	N/A	
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 at Warwick Road, Littlethorpe	
Serial title & volume	Northamptonshire Archaeology Reports 10/55	
Author(s)	Charlotte Walker and Adrian Butler	
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ARCHAEOLOGICAL GEOPHYSICAL SURVEY ON LAND AT WARWICK ROAD, LITTLETHORPE, LEICESTERSHIRE FEBRUARY 2010

ABSTRACT

Northamptonshire Archaeology was commissioned by CgMs Consulting to conduct archaeological geophysical survey on land at Warwick Road, Littlethorpe. Although 3.8ha was not assessed, magnetometry of a 4.3ha area revealed a possible ditch and ridge-and-furrow.

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by CgMs Consulting, to conduct an archaeological geophysical survey on land at Warwick Road, Littlethorpe, Leicestershire (NGR SP 5460 9670; Fig 1). The survey forms part of a planning application for residential development and associated works.

The objectives of the geophysical survey were to identify the presence or absence of archaeological remains within the proposed 8.1 hectare development area. Two fields of the five were unsurveyable because they were overgrown by thistles, nettles and brambles to a height of approximately 1m. The fieldwork, therefore, consisted of an area magnetic gradiometer survey in three fields totalling 4.3ha (Fig 2).

2 TOPOGRAPHY AND GEOLOGY

The site is situated to the south of Warwick Road as it enters the south-eastern edge of Littlethorpe, in central Leicestershire. Littlethorpe lies immediately south of the village of Narborough, approximately 7km south-west of central Leicester.

The investigation site covers a roughly rectangular area of land and is spread over five fields. The two northern fields were not surveyed because they were overgrown. Field 1 is bounded to the west by housing that fronts onto Cosby Road and to the east by further fields. Field 2 is part of a larger arable field bounded to the south by a golf course. Field 3 is a pasture field bounded to the west by Cosby Road, to the south by the golf course, to the north by a further pasture field and to the east by Field 2.

The site lies at approximately 68m aOD. The solid geology of the site comprises the

Mercia Mudstone Group, part of the Triassic Series (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. A desk-based assessment has been carried out by CgMs Consulting (CgMs 2009). Scatters of worked flint dating to the Mesolithic, Neolithic and Bronze Age periods have been found in the vicinity of the site. Cropmarks of Bronze Age ring ditches and other features have been noted, though none are within 450m of the site. Cropmarks of Iron Age enclosures have been identified to the south-west and north-east of the site and a late Iron Age/early Roman quern has been found 75m to the east. Isolated sherds of Roman pottery have been found in the wider area (CgMs 2009).

Littlethorpe is recorded in the Domesday Book as 'Torp'. The Late Saxon, medieval and post-medieval settlement core is located some 100m to the north-east of the development area. The settlement was almost certainly surrounded by open fields during these periods and it is likely that the development area was part of this system.

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 to 3, with each of these divided into a network of 60 contiguous, whole and partial, 30m x 30m grid squares. These were set out manually by tape measure and optical square. 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

The major detected magnetic anomalies at Warwick Road were alternate linear positive and negative anomalies. These anomalies represent recent tillage patterns and are present in Field 1 orientated north-east to south-west and in Field 2 orientated north-west to south-east. It is possible that an older ridge and furrow cultivation pattern has been disguised on the same alignment as the modern ploughing in Field 2.

Fields 1 and 2 produced evidence of possible archaeology. A weakly positive curvilinear magnetic anomaly, putatively a ditch was orientated from the south-east to the north-west, for approximately 30m. A chain of intense positive anomalies identified orientated north-east to south-west across Field 2 was likely to indicate a ferrous pipeline.

An area of dipolar anomalies around the boundary between Fields 2 and 1 may reflect small ferrous and ceramic (eg brick) debris. Strong magnetic anomalies detected within Field 3 were mostly a reflection of surrounding objects in the field.

6 CONCLUSION

The strongest evidence for archaeology within the magnetometer survey of land at Warwick Road was from the weak linear anomaly in Fields 1 and 2. Modern ploughing may have obscured evidence of ridge-and-furrow in Field 2.

BIBLIOGRAPHY

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

CgMs Consulting 2009 *Archaeological desk-based assessment: Land at Warwick Road, Littlethorpe, Leicestershire*

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

www.geodata.bgs.ac.uk/website/leicester/viewer.htm, Geology of Leicestershire and Rutland, accessed 22/03/2010

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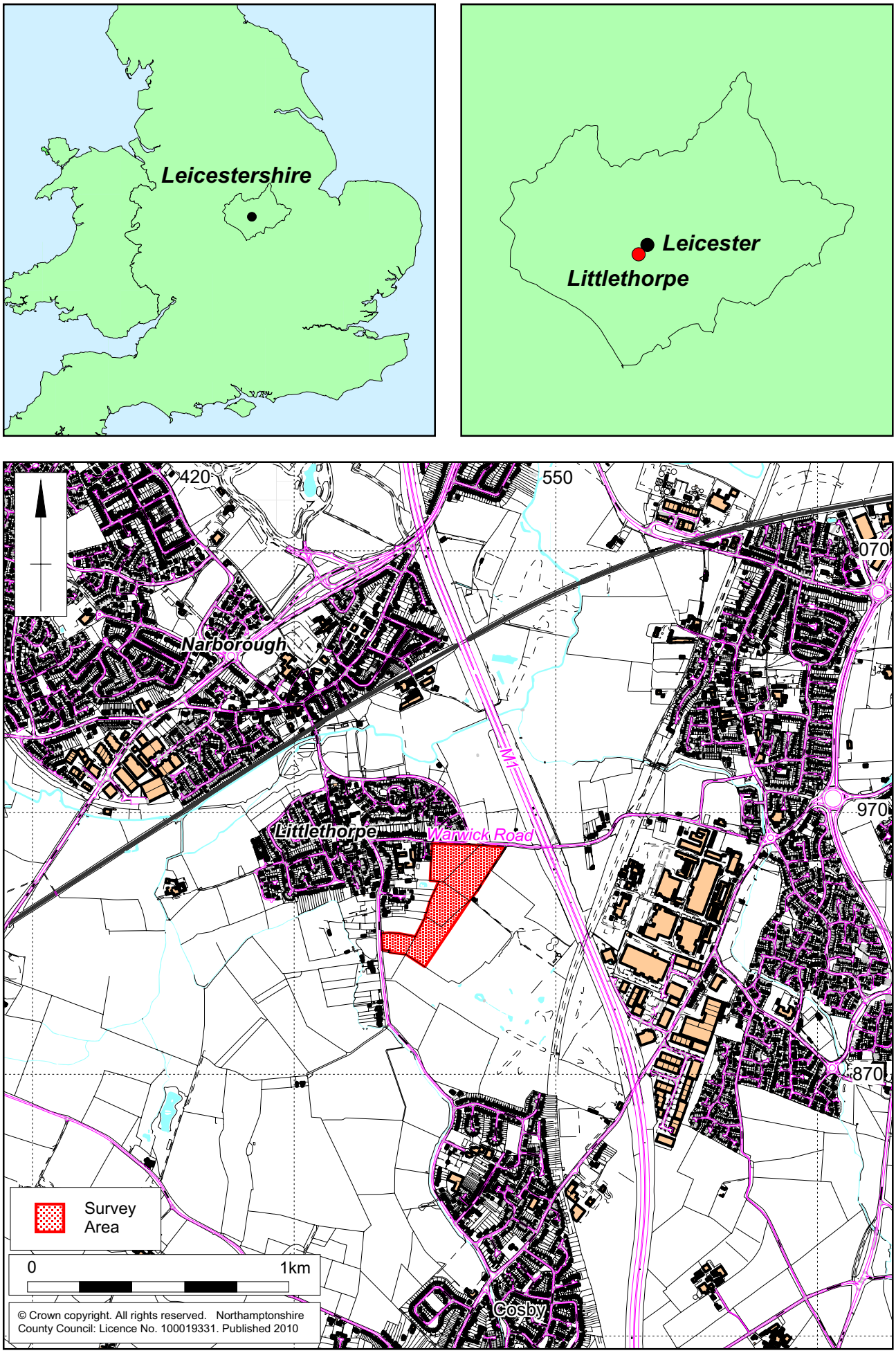

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Site Location Fig 1

Scale 1:2500

Magnetometer Survey Results Fig 2

Scale 1:2500

Magnetometer Survey Interpretation Fig 3

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