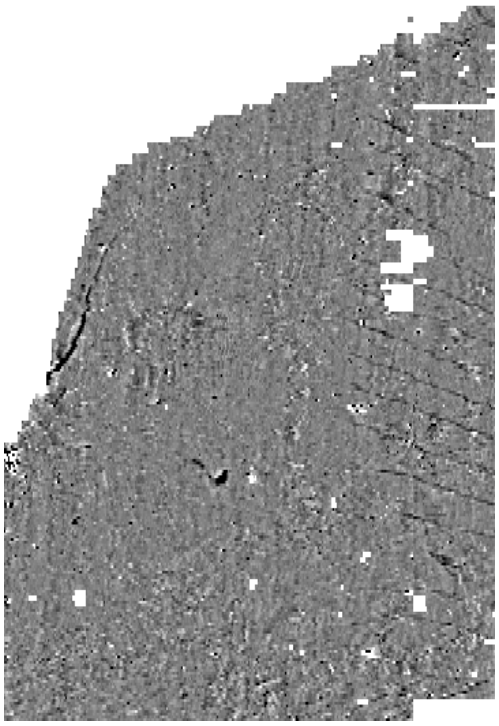
Northamptonshire Archaeology

Archaeological Geophysical Survey on land adjacent to Maltby Quarry, South Yorkshire



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Report 10/154
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QUALITY CONTROL

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Verified by	Mark Holmes		08/10/10
Approved by	Bill Boismier		08/10/10

OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological Geophysical Survey on land adjacent to Maltby Quarry, South Yorkshire	
Short description	Northamptonshire Archaeology was commissioned by Phoenix Consulting Archaeology to carry out a magnetometer survey on 3.7ha of land adjacent to Maltby Quarry in South Yorkshire. The survey detected one ditch and one pit, both of unknown date and significance, as well as possible traces of medieval ridge and furrow cultivation. A network of modern field drains was detected in the southern part of the site.	
Project type	Geophysical survey	
Site status	None	
Previous work	DBA (Wardell Armstrong 2000)	
Current Land use	Waste ground	
Future work	Unknown	
Monument type/ period	Undated pit and ditch. Possible ridge and furrow	
Significant finds	None	
PROJECT LOCATION		
County	South Yorkshire	
Site address	Maltby Quarry	
Study area	3.7ha	
OS Easting & Northing	SK 509 931	
Height OD	*c* 100m – 115m AOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Phoenix Consulting Archaeology	
Project Design originator	NA	
Director/Supervisor	Adrian Butler	
Project Manager	Adrian Butler	
Sponsor or funding body	Phoenix Consulting Archaeology	
PROJECT DATE		
Start date	20 September 2010	
End date	8 October 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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 adjacent to Maltby Quarry, South Yorkshire	
Serial title & volume	Northamptonshire Archaeology Reports 10/154	
Author(s)	James Ladocha and John Walford	
Page numbers	3	
Date	08/10/2010	

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ARCHAEOLOGICAL GEOPHYSICAL SURVEY ON LAND ADJACENT TO MALTBY QUARRY, SOUTH YORKSHIRE SEPTEMBER 2010

ABSTRACT

Northamptonshire Archaeology was commissioned by Phoenix Consulting Archaeology to carry out a magnetometer survey on 3.7ha of land adjacent to Maltby Quarry in South Yorkshire. The survey detected one ditch and one pit, both of unknown date and significance, as well as possible traces of medieval ridge and furrow cultivation. A network of modern field drains was detected in the southern part of the site.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by Phoenix Consulting Archaeology to carry out an archaeological geophysical survey on *c* 3.7ha of land adjacent to Maltby Quarry in South Yorkshire. (NGR: SK 509 931; Fig 1). The fieldwork comprised a detailed magnetometer survey of the site.

2 TOPOGRAPHY AND GEOLOGY

The survey area comprised a single area of *c*3.7ha located to the immediate north of Maltby Quarry. It occupied a west-facing slope, dropping from a maximum elevation of *c*115m to a minimum of *c*100m AOD. A minor stream flowed southwards along the foot of this slope, just beyond the western limit of the survey area.

Prior to the survey, the land had lain waste for some time and had developed a thick covering of scrub. This was cleared by machine before work began, leaving a rough surface littered with branches and other debris. These obstructions are represented by a number of small gaps in the survey data.

The underlying geology of the site is mapped as Upper Coal measures with no overlying drift (BGS 2010). This supports a clayey soil of the Dale association (SSEW 1983)

3 ARCHAEOLOGICAL BACKGROUND

The archaeology of Maltby Quarry and its environs was the subject of a desk based assessment (Wardell Armstrong 2000). This identified nothing within or immediately adjacent to the present survey area but did highlight the presence of several archaeological sites within the wider vicinity. These included several cropmarks of Iron-Age or Romano-British fields and enclosures and also the scheduled site of a deserted medieval village centred around Hellaby Hall.

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 survey area was divided into a grid of 30m x 30m squares which were established by means of a tape measure and optical square. This grid system was tied into the OS national grid by taking measurements to the surrounding field margins.

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 grid.

All fieldwork methods complied with the guidelines for geophysical survey issued by English Heritage and the Institute for Archaeologists (EH 2008; Gaffney, Gater and Ovendon 2002).

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

The processed data is presented in this report in the form of greyscale plots (+/- 4nT black/white). These have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). Interpretative overlays have been produced and are shown in Figure 3.

5 SURVEY RESULTS (Figs 2-3)

The magnetometer survey detected two anomalies of possible archaeological interest. A slightly sinuous linear anomaly at the northern edge of the survey area is indicative of an infilled ditch. And a discrete positive anomaly, measuring about 8m by 3m, towards the centre of the site would be consistent with an infilled pit. Neither feature is diagnostic, so it is not possible to make any suggestion about their date or function.

There are some weak and poorly defined parallel linear anomalies which run across the survey area on a north-east to south-westerly heading. These most probably represent traces of medieval ridge and furrow, although a more recent origin is also possible.

In the southern part of the survey area there is a series of regularly spaced linear anomalies which run predominantly north to south. These almost certainly represent modern field drains.

The data also contains a number of minor ferrous anomalies, indicating small pieces of buried scrap. A particularly dense cluster of such anomalies occurs against the northern edge of the survey area.

6 CONCLUSION

The survey has identified two anomalies of archaeological interest, which represent a ditch and a small pit. Both anomalies are of simple and undiagnostic form, and no firm conclusions may be drawn about the date or significance of the features they represent. The results also suggest the presence of medieval ridge and furrow across the site.

No other archaeological remains were detected by this survey. It should be borne in mind, however, that certain types of feature (eg inhumations, post-built structures, etc) rarely produce clear magnetic anomalies. Thus the results presented here do not necessarily provide a comprehensive overview of the archaeology of the proposed development area.

BIBLIOGRAPHY

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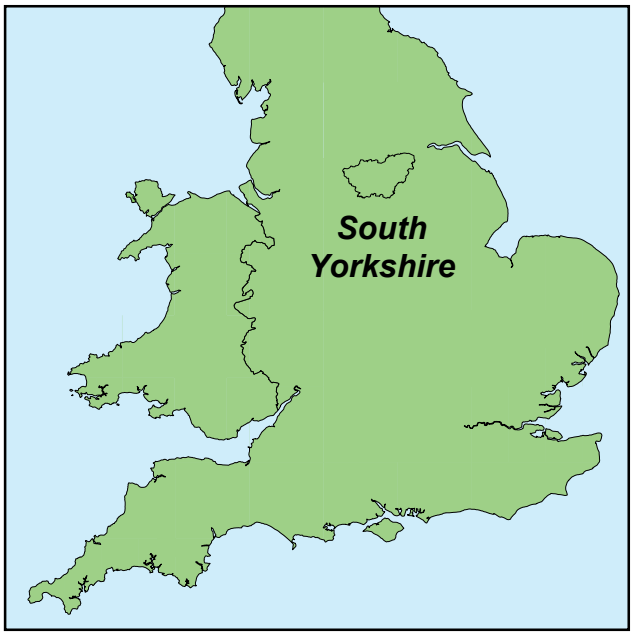

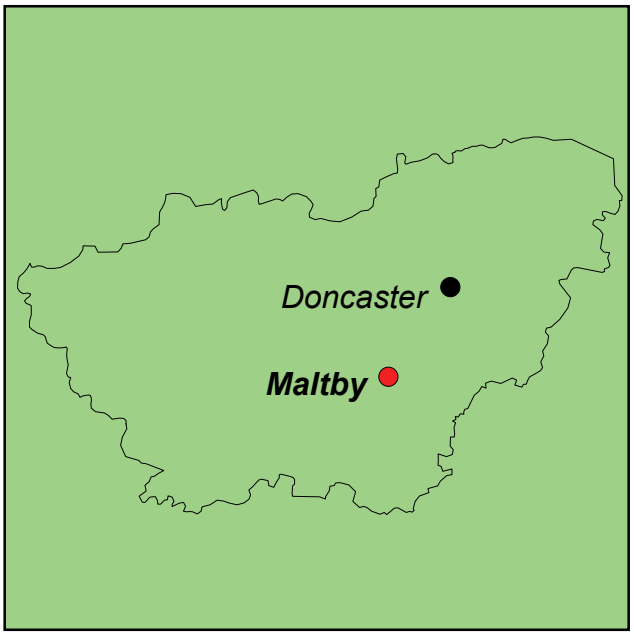

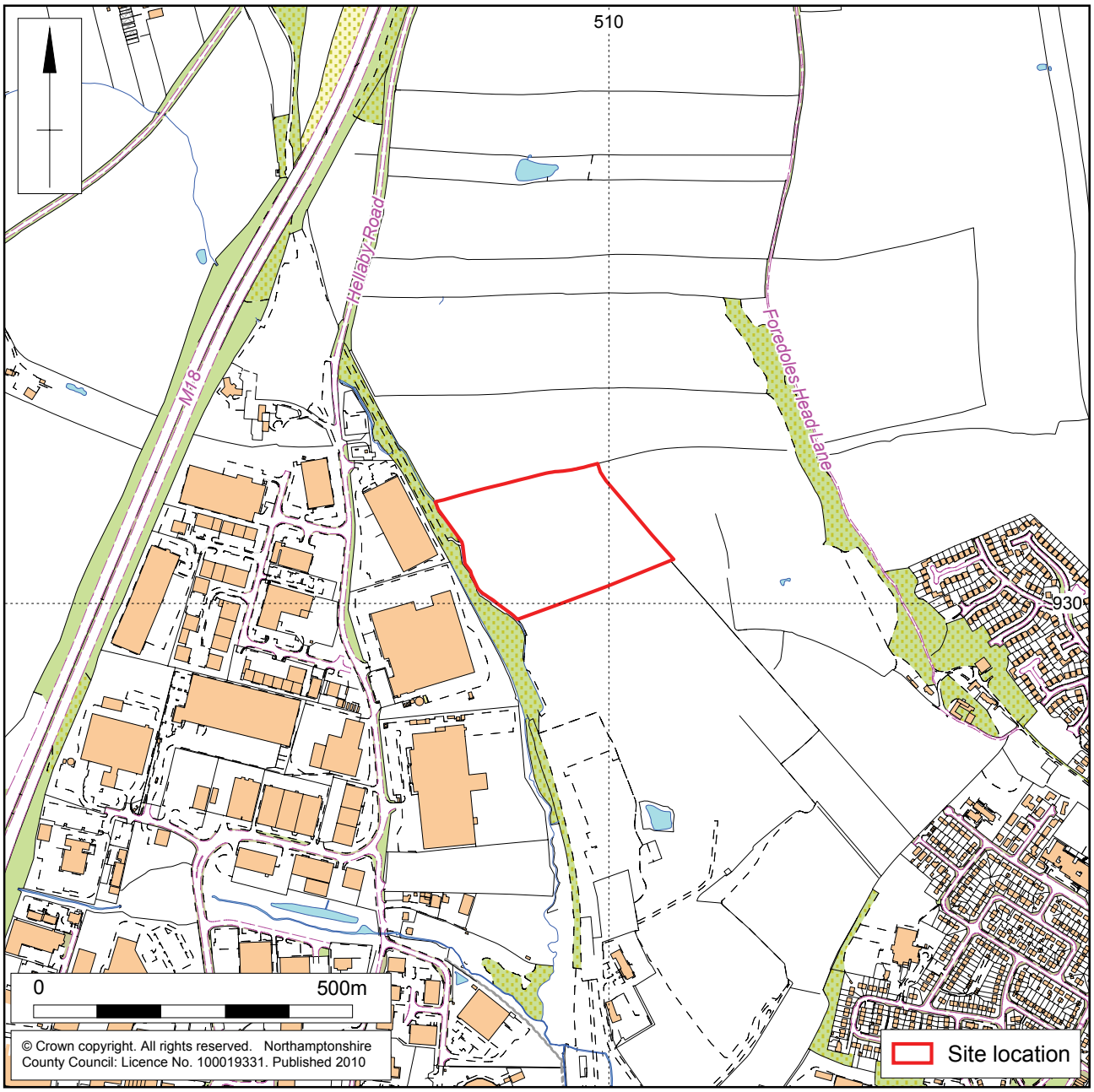

Scale 1:10,000

Site location Fig 1

Scale 1:2500

Magnetometer Survey Results Fig 2

Scale 1:2500

Magnetometer Survey interpretation Fig 3

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