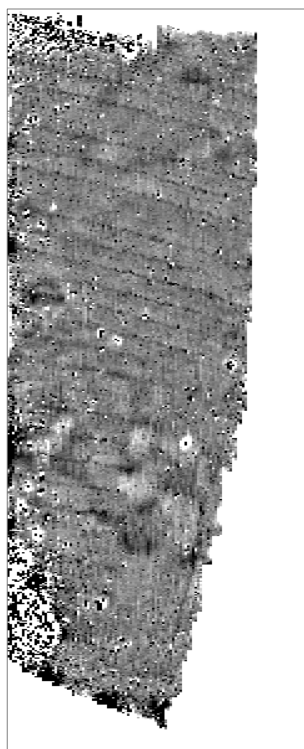




Northamptonshire Archaeology

Archaeological geophysical survey of land off
Milton Road, Sutton Courtenay, Oxfordshire
December 2012



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Report 13/2

January 2013



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QUALITY CONTROL

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Verified by	Mark Holmes	<i>MH</i>	07/01/13
Approved by	Andy Chapman	<i>AC</i>	07/01/13

OASIS REPORT FORM

PROJECT DETAILS		OASIS No: 139959
Project name	Archaeological geophysical survey of land off Milton Road, Sutton Courtenay, Oxfordshire	
Short description	Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of land to the north of Milton Road, Sutton Courtenay, Oxfordshire. The survey identified a modern gravel pit and traces of medieval or later ridge and furrow.	
Project type	Geophysical survey	
Site status	None	
Previous work	Desk-based assessment (Weaver 2012)	
Current Land use	Arable	
Future work	Not known	
Monument type/ period	Medieval ridge and furrow, modern gravel pit	
Significant finds		
PROJECT LOCATION		
County	Oxfordshire	
Site address	Milton Road, Sutton Courtenay	
Study area	c 2.5ha	
OS grid reference	SU 497 930	
Height OD	c 57 m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Oxfordshire County Archaeological Services	
Project Design originator	NA	
Director/Supervisor	John Walford	
Project Manager	Mark Holmes	
Sponsor or funding body	CgMs Consulting	
PROJECT DATE		
Start date	26 November 2012	
End date	January 2013	
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BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	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 of land off Milton Road, Sutton Courtenay, Oxfordshire - December 2012	
Serial title & volume	Northamptonshire Archaeology Reports 13/2	
Author(s)	John Walford	
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**ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF LAND OFF
MILTON ROAD, SUTTON COURTENAY, OXFORDSHIRE
DECEMBER 2012**

ABSTRACT

Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey of land to the north of Milton Road, Sutton Courtenay, Oxfordshire. The survey identified a modern gravel pit and traces of medieval or later ridge and furrow.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting to conduct a geophysical survey in advance of a proposed development on land to the north of Milton Road, Sutton Courtenay, Oxfordshire (NGR SU 497 930; Fig 1). The aim of the survey was to investigate whether there were any archaeological remains present which might be affected by the proposed development.

The fieldwork was conducted on 20 December 2012, and comprised the detailed magnetometer survey of c 2.5ha of land.

2 TOPOGRAPHY AND GEOLOGY

The proposed development area consists of a single arable field, almost rectangular in shape, located towards the southern end of Sutton Courtenay. It lies slightly north of Milton Road and is bounded by domestic properties to the west, south and east, and by agricultural land to the north. At the time of the survey, it was lying fallow.

The proposed development area lies on a very shallow east-facing slope, at an elevation of about 57m aOD. Its geology is mapped as Gault clay, overlain in the west by Northmoor Terrace gravels and elsewhere by head (BGS 2012).

3 ARCHAEOLOGICAL BACKGROUND

A desk-based assessment of the proposed development area (Weaver 2012) has shown that, whilst it contains no known archaeology (other than ridge and furrow), the surrounding landscape contains an abundance of prehistoric, Roman and Anglo-Saxon remains. Approximately 1km to the north-west there is a large multi-period site which includes the southern end of a Neolithic cursus, a group of Bronze Age ring ditches, and a major Anglo-Saxon settlement. At a similar distance to the west there is another area of Anglo-Saxon settlement, with an associated cemetery. About 400m to the south, there are cropmarks suggesting the presence of extensive Iron Age and Anglo-Saxon remains. A Roman villa lies about 850m to the north. As well as these sites, there are many others, often represented by poorly dated cropmarks.

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).

A system of 30m grids was established within the field to be surveyed. The grids were established with a tape measure and optical square and were tied in to the Ordnance Survey National Grid by measurement to the surrounding field boundaries. 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 were processed using Geoplot 3.00v 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 a greyscale plot, at a range of +/- 4nT black/white. This plot has been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretation diagram has been produced and is shown in Figure 3. Plots of the unprocessed survey data are presented in Figure 4 (greyscale) and Figure 5 (X-Y trace).

5 SURVEY RESULTS

The data contains a series of parallel, magnetically positive, linear anomalies which cross the survey area from south to north. These represent ridge and furrow, created by medieval to early post-medieval ploughing. A couple of linear anomalies which lie parallel to the northern field boundary may represent the edge of a separate set of furrows.

An area of intense magnetic noise has been detected in the south-eastern corner of the survey area, where there is a slight dip in the field surface. It almost certainly indicates a recent, ie 20th-century, gravel pit, backfilled with domestic waste and other landfill materials.

A second, less intense, area of magnetic noise occurs in the south-western part of the survey area. It coincides with a surface scatter of brick rubble and other modern debris which may be a dump of builders' waste or the remains of a temporary hardstanding.

Large, subdued and amorphous magnetic anomalies are present at various locations across the survey area. Such anomalies are commonly encountered in magnetic survey data, and are generally attributed to geological or pedological variations. However, they have not been well studied, and their precise cause or causes remain obscure.

6 CONCLUSION

The survey has identified widespread traces of medieval ridge and furrow, and two areas of modern disturbance, including what appears to be a backfilled gravel pit.

Excepting the ridge and furrow, nothing of archaeological significance has been detected. This probably indicates a genuine absence of substantial archaeological remains, although it does not preclude the existence of small and ephemeral features, such as cremation burials, or post-built structures, which are rarely detectable by magnetometer survey (EH 2008, 14).

BIBLIOGRAPHY

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

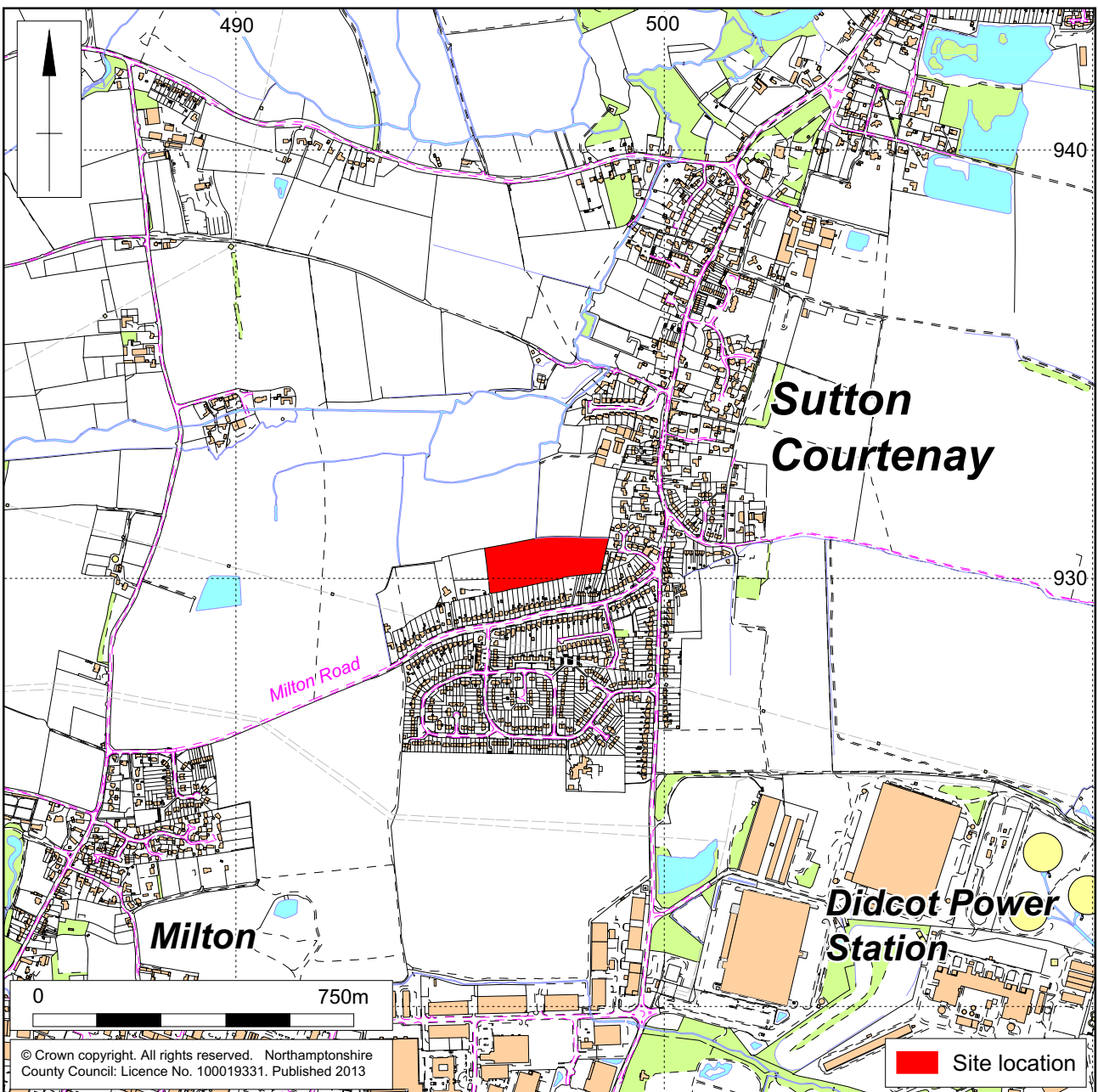
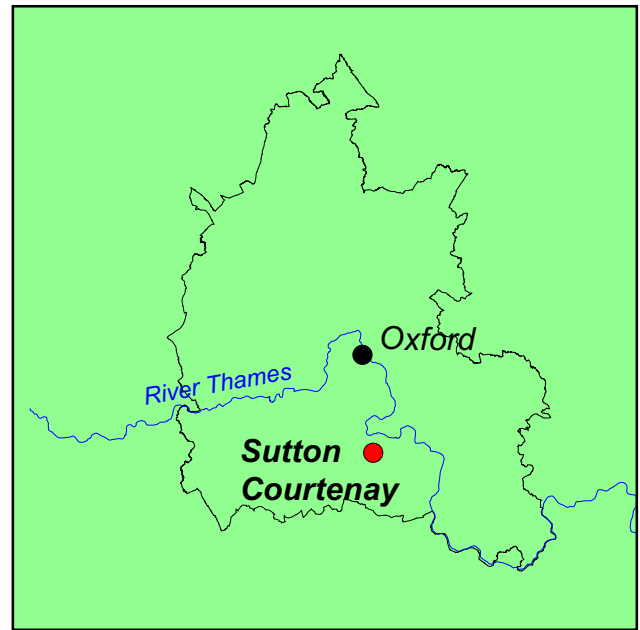
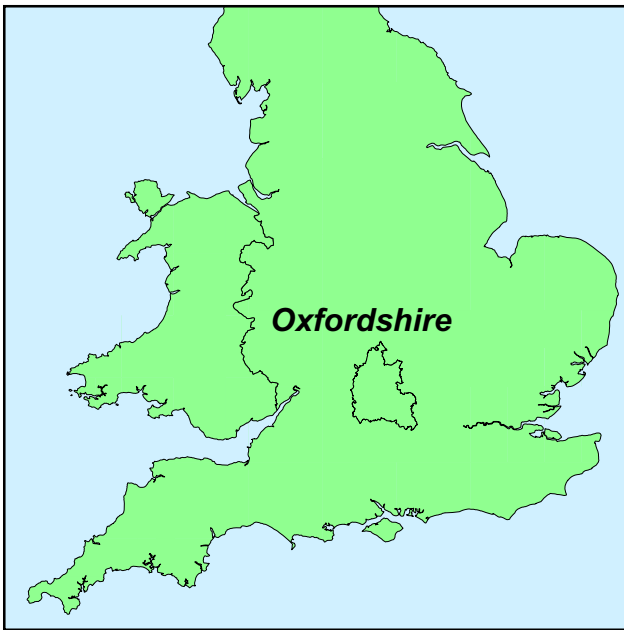
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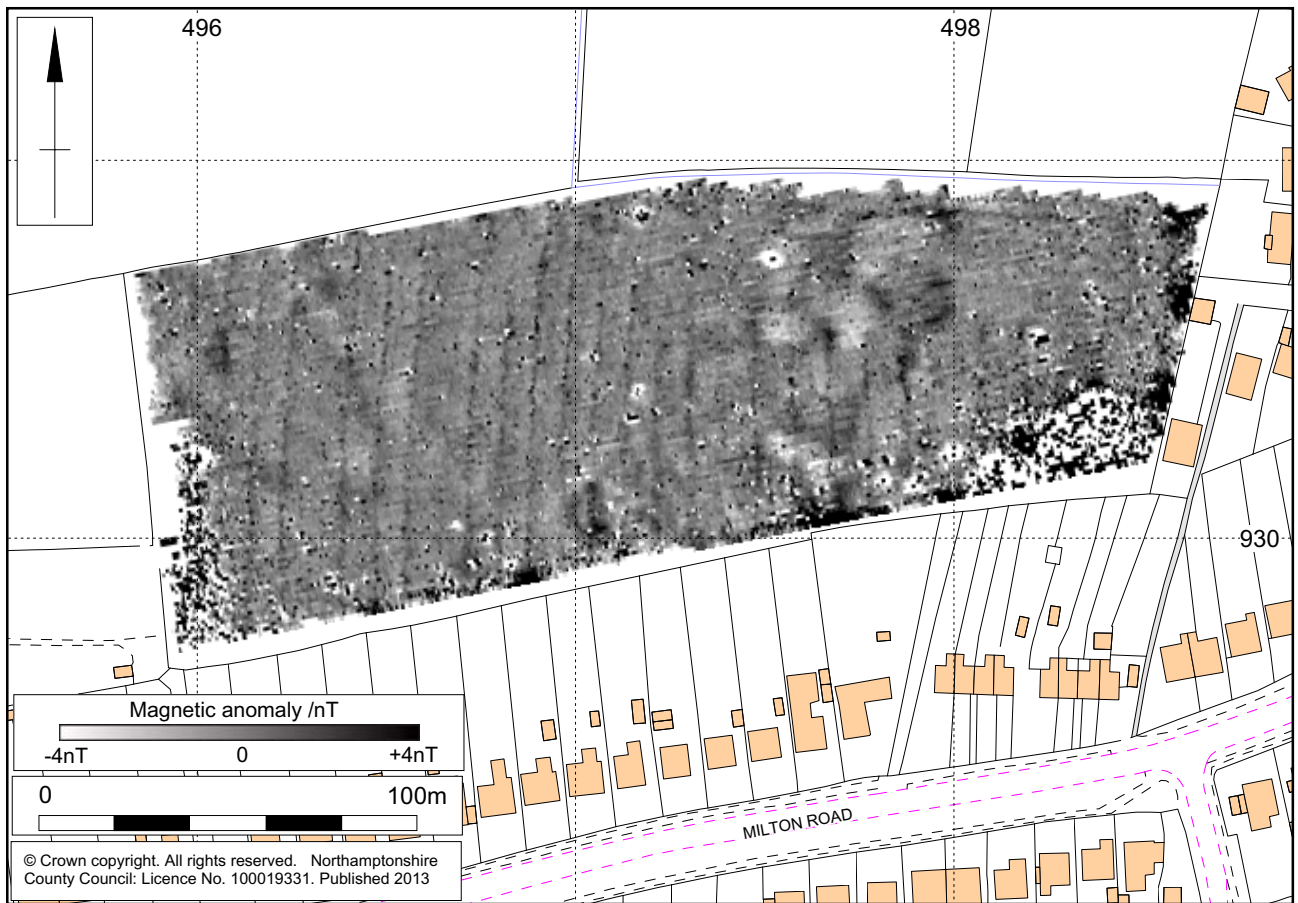
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Weaver, S, 2012 *Heritage Assessment: Land north of Milton Road, Sutton Courtenay, Oxfordshire*, CgMs Consulting, report **SW/14467**



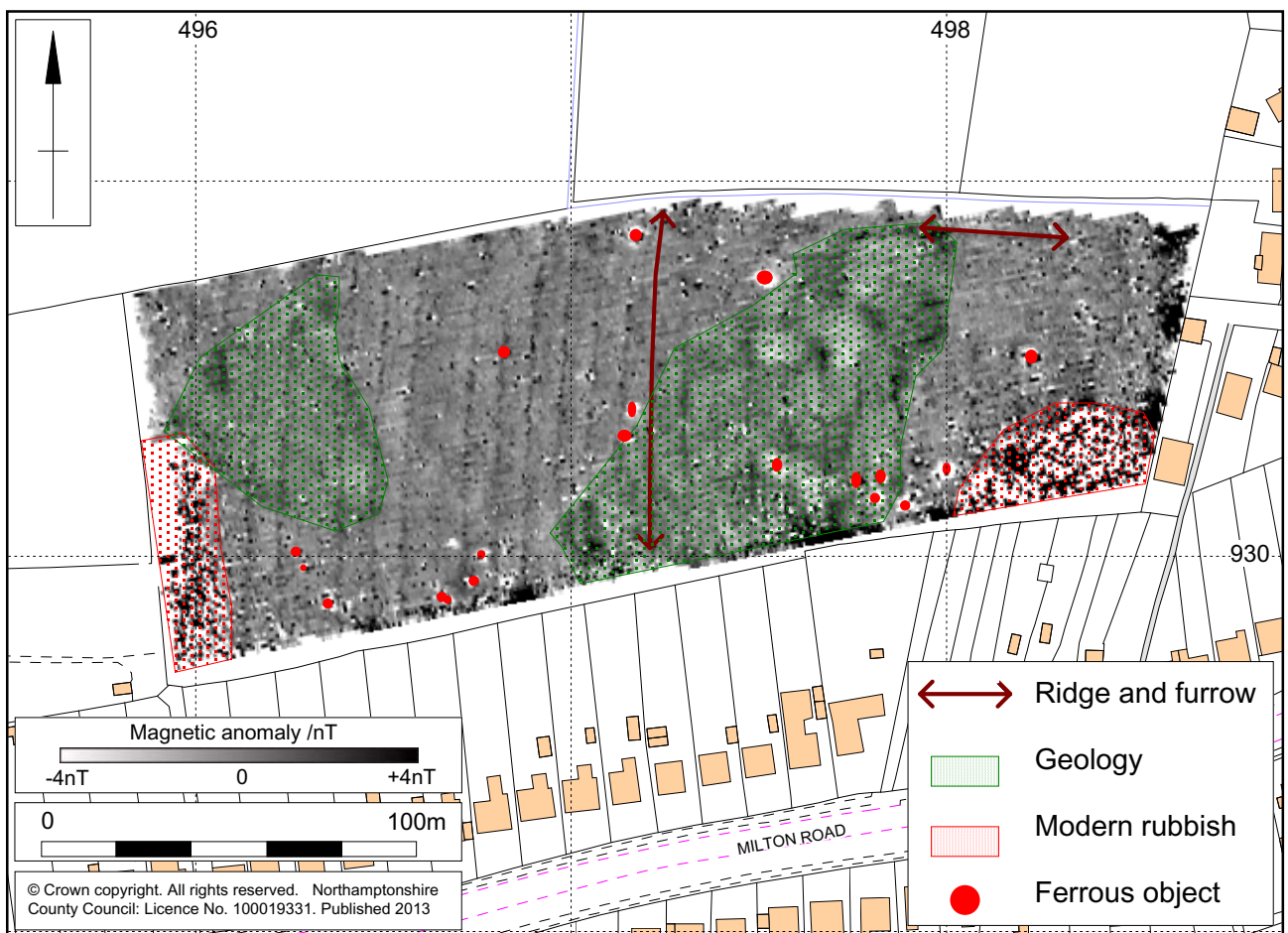
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Site Location Fig 1



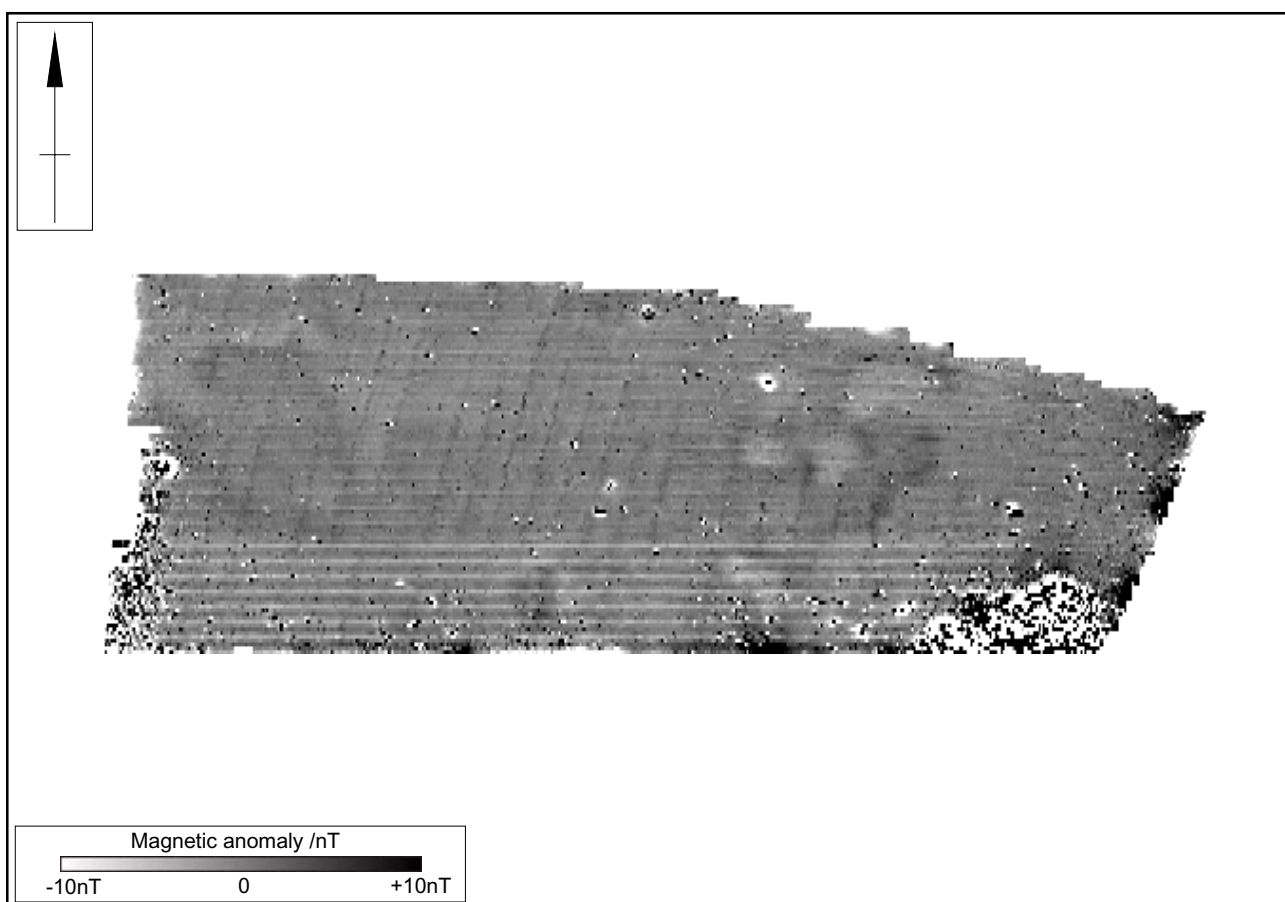
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Magnetometer survey results Fig 2



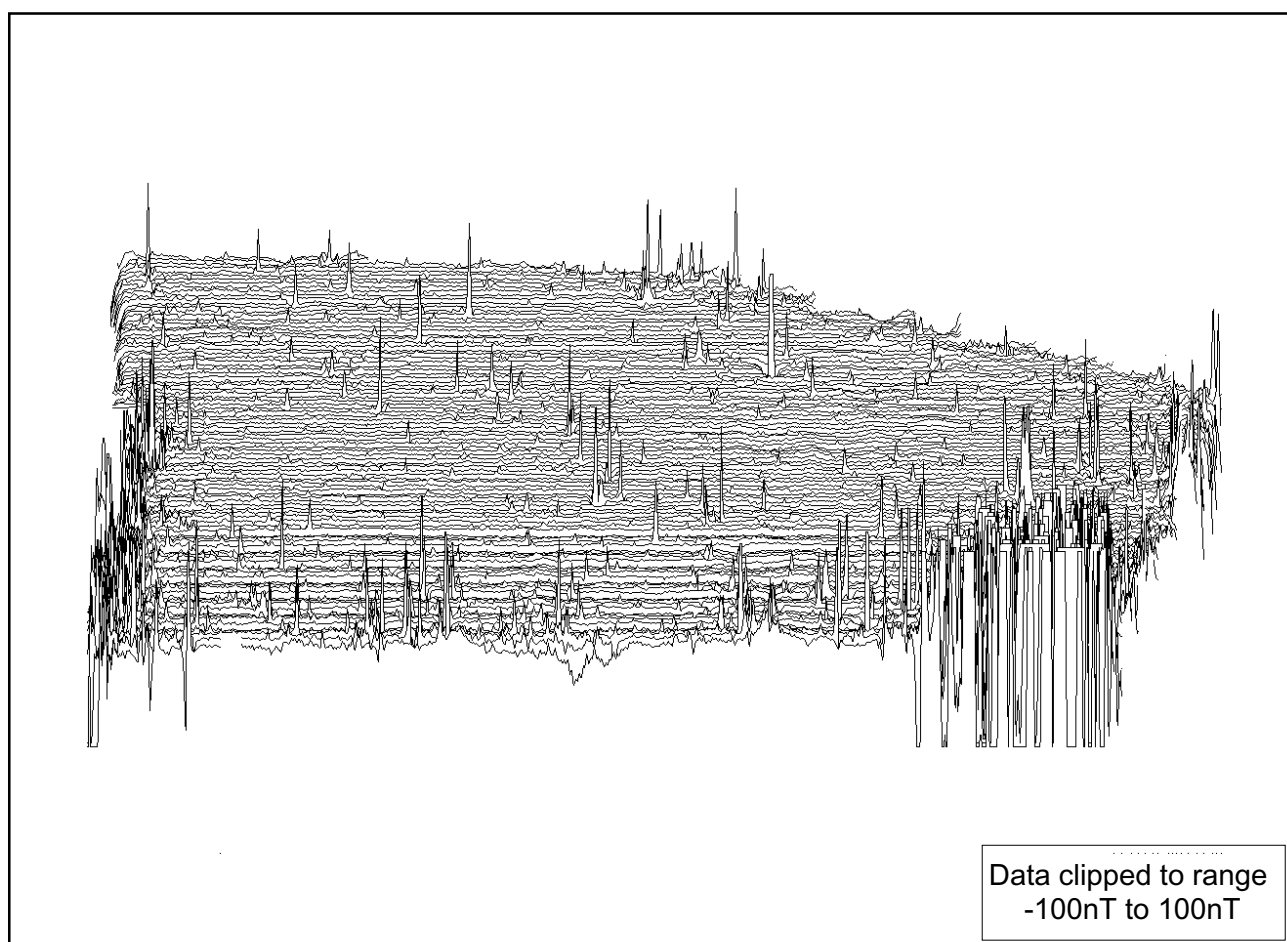
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Magnetometer survey interpretation Fig 3



1:2,000 (A4)

Greyscale plot of raw data Fig 4



1:2,000 (Approximate)

X-Y plot of raw data Fig 5



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