



**Archaeological geophysical survey at
Field End, Witchford
Cambridgeshire
April 2014**

Accession No. ECB4170

Report No. 14/100

Authors: John Walford
Olly Dindol

Illustrator: John Walford



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OASIS REPORT

PROJECT DETAILS		Oasis No. molanort1-178420	
Project name		Archaeological geophysical survey of land at Field End, Witchford, Cambridgeshire.	
Short description		MOLA was commissioned to carry out a detailed magnetometer survey on land at Field End, Witchford, Cambridgeshire. The survey identified two possible pits of indeterminate date. Ridge and furrow of medieval or early post-medieval date was also identified across the entire survey area.	
Project type		Geophysical survey	
Site status		None	
Previous work		None known	
Current Land use		Arable	
Future work		Unknown	
Monument type/ period		Medieval ridge and furrow, two possible undated pits	
Significant finds		None	
PROJECT LOCATION			
County		Cambridgeshire	
Site address		Field End, Witchford	
Study area		c 5.2ha	
OS Easting & Northing		TL 498 792	
Height OD		c 10m AOD	
PROJECT CREATORS			
Organisation		MOLA	
Project brief originator		CgMs Consulting	
Project design originator		MOLA	
Director/Supervisor		John Walford	
Project Manager		Mark Holmes	
Sponsor or funding body		CgMs Consulting	
PROJECT DATE			
Start date		11 April 2014	
End date		11 April 2014	
ARCHIVES		Location	Content
Physical		N/A	
Paper		ECB 4166	Site survey records
Digital			Geophysical survey & GIS data
BIBLIOGRAPHY		Journal/monograph, published or forthcoming, or unpublished client report	
Title		Archaeological geophysical survey of land at Field End, Witchford, Cambridgeshire. April 2014	
Serial title & volume		MOLA Northampton Reports 14/100	
Author(s)		John Walford and Olly Dindol	
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Archaeological geophysical survey of land at Field End, Witchford, Cambridgeshire April 2014

ABSTRACT

MOLA was commissioned to carry out a detailed magnetometer survey on land at Field End, Witchford, Cambridgeshire. The survey identified two possible pits of indeterminate date. Ridge and furrow of medieval or early post-medieval date was also identified across the entire survey area.

1 INTRODUCTION

MOLA was commissioned by CgMs Consulting to conduct a geophysical survey on land at Field End, Witchford, Cambridgeshire (NGR TL 498 792; Fig 1). A detailed magnetometer survey was undertaken on 11 April 2014 and covered a total area of approximately 5.2ha.

2 BACKGROUND

2.1 Location and geology

The survey area is located on the northern side of Witchford, between Field End and the A142 Witchford Bypass. The area encompasses an arable field and a smaller grass field which occupy part of a fen island at approximately 10m aOD. The land is almost flat, with a barely perceptible slope down towards the east. The underlying geology is mapped as Kimmeridge Clay capped by glacial till (Oadby member) (BGS 2014).

2.2 Historical and archaeological background

An archaeological desk-based assessment of the survey area concluded that it had a low potential to contain sites of archaeological significance (Thornton 2013, 15). The Fenland Survey report lists only a sparse scatter of Bronze Age to Roman sites and find-spots in Witchford, and none of these lie close to the present survey area (Hall 1996, fig 22). The Archaeology Data Service and Heritage Gateway websites are similarly uninformative, recording only the 14th-century parish church and a few other historic buildings within a 1km radius of the survey area.

The historic mapping of the survey area shows that it lies outside the historic core of Witchford, and that its primary use in the 19th and 20th centuries was agricultural. Only in recent decades, with the construction of the A142 bypass and the modern housing around Field End, has the village has encroached towards its boundaries.

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 within 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 were 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. Separate greyscale plots of the unprocessed data are presented in Figure 4.

4 SURVEY RESULTS

The survey results are dominated by sets of parallel linear anomalies which represent parts of two furlongs of medieval to early post-medieval ridge and furrow. One furlong, with furrows aligned from north to south, occupies the western half of the survey area and the other, with furrows aligned north-east to south-west, is present in the east. The headland between these furlongs is apparent as a band of 'empty' data, and survives on the ground as a very low, broad ridge (pers obs).

An unusual aspect of this data set is the presence of linear anomalies running perpendicularly across the heads of the furrows. Such an arrangement is reminiscent of a field drain network, and suggests that there may be drains running along the lines of the former furrows, leading into collector drains at the ends of the furlongs. This interpretation could also explain why the eastern set of furrow anomalies weaken abruptly where they meet the perpendicular anomaly at the western end of the furlong, if the stronger anomalies represent drains and the weaker ones just the furrows themselves.

At the southern edge of the survey area there is a very weak linear anomaly with a rounded corner. It lies parallel to the adjacent furrows or field drains, but it does not seem to link with them. On balance, an interpretation as another field drain is most likely, but it is possible that it represents a ditch or gully of earlier date.

Two localised positive anomalies, each about 3m across, have been detected close to the southern and western edges of the survey area. The western anomaly has a typical intensity of 15nT and the southern is weaker, at around 6nT. Both would be consistent with large pits, and the strength of the western anomaly may be due to the presence of ceramic material or burnt soil. A superficially similar anomaly midway along the headland is an inverted dipole, and represents a ferrous object rather than a pit.

Other dipolar magnetic anomalies, representing small pieces of ferrous debris, have been detected across the survey area and magnetic halos, arising from adjacent buildings and fences, have also been detected in a number of places. Moreover, in the south-eastern corner of the large field, there is an intense linear anomaly, aligned east to west, representing the line of a modern pipe.

5 CONCLUSION

The survey data shows that remnants of medieval to early post-medieval ridge and furrow extend across the entire survey area. Little other archaeology has been detected, apart from a couple of possible pits and a possibly gully or field drain, all of indeterminate date.

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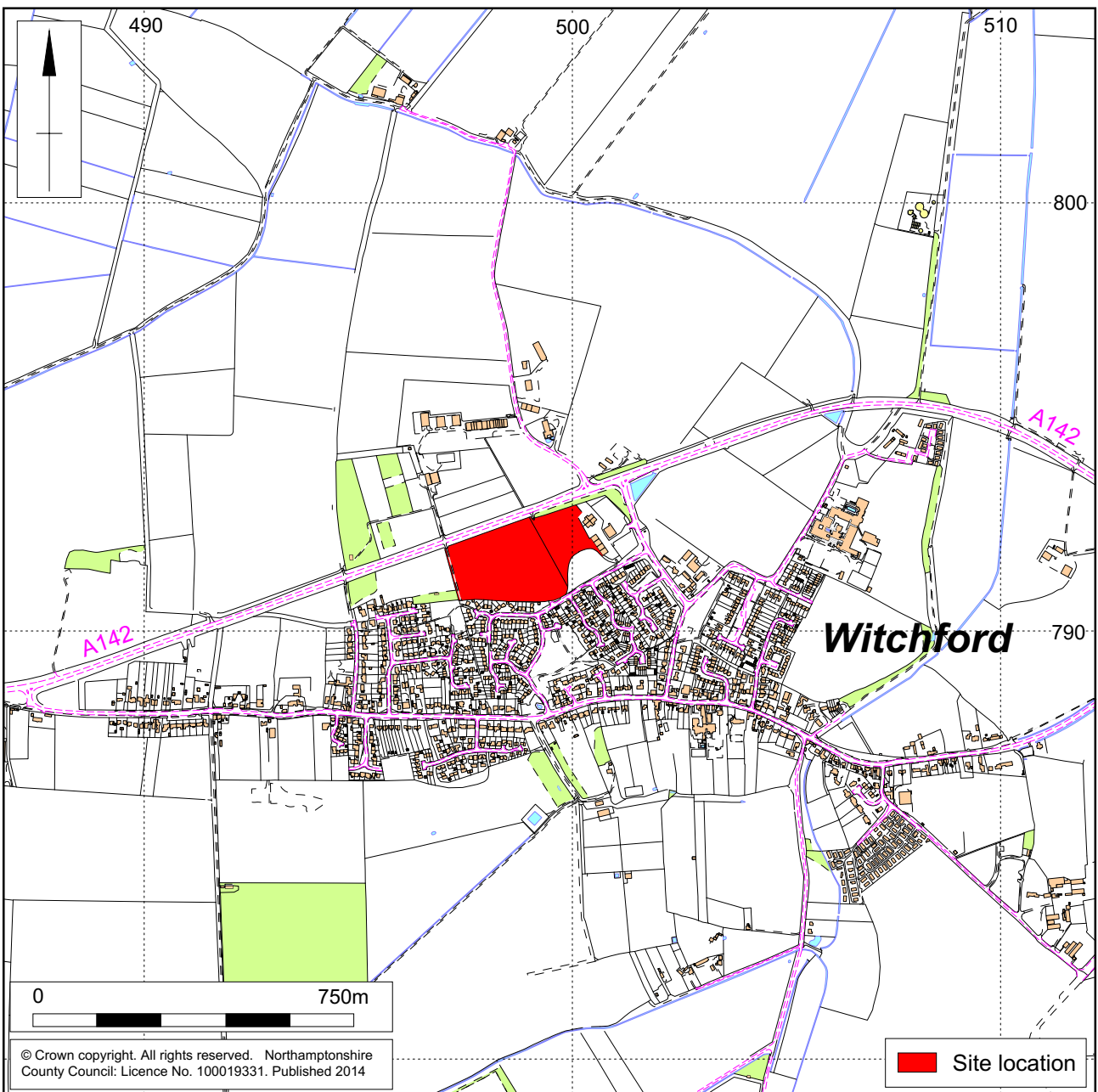
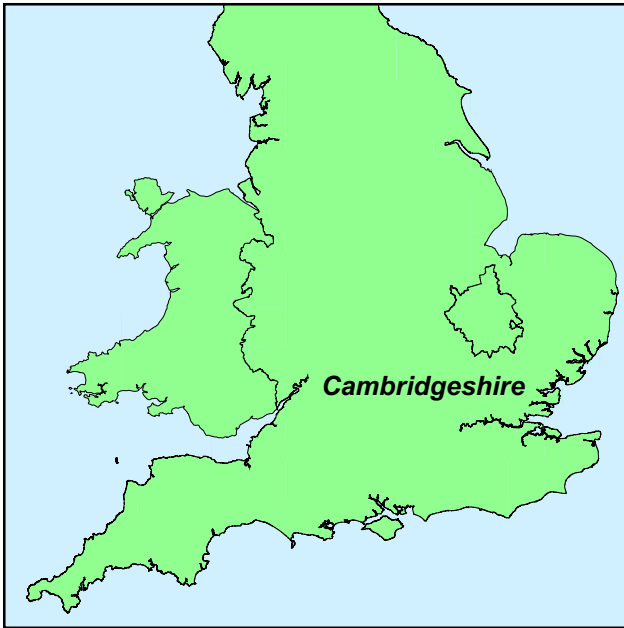
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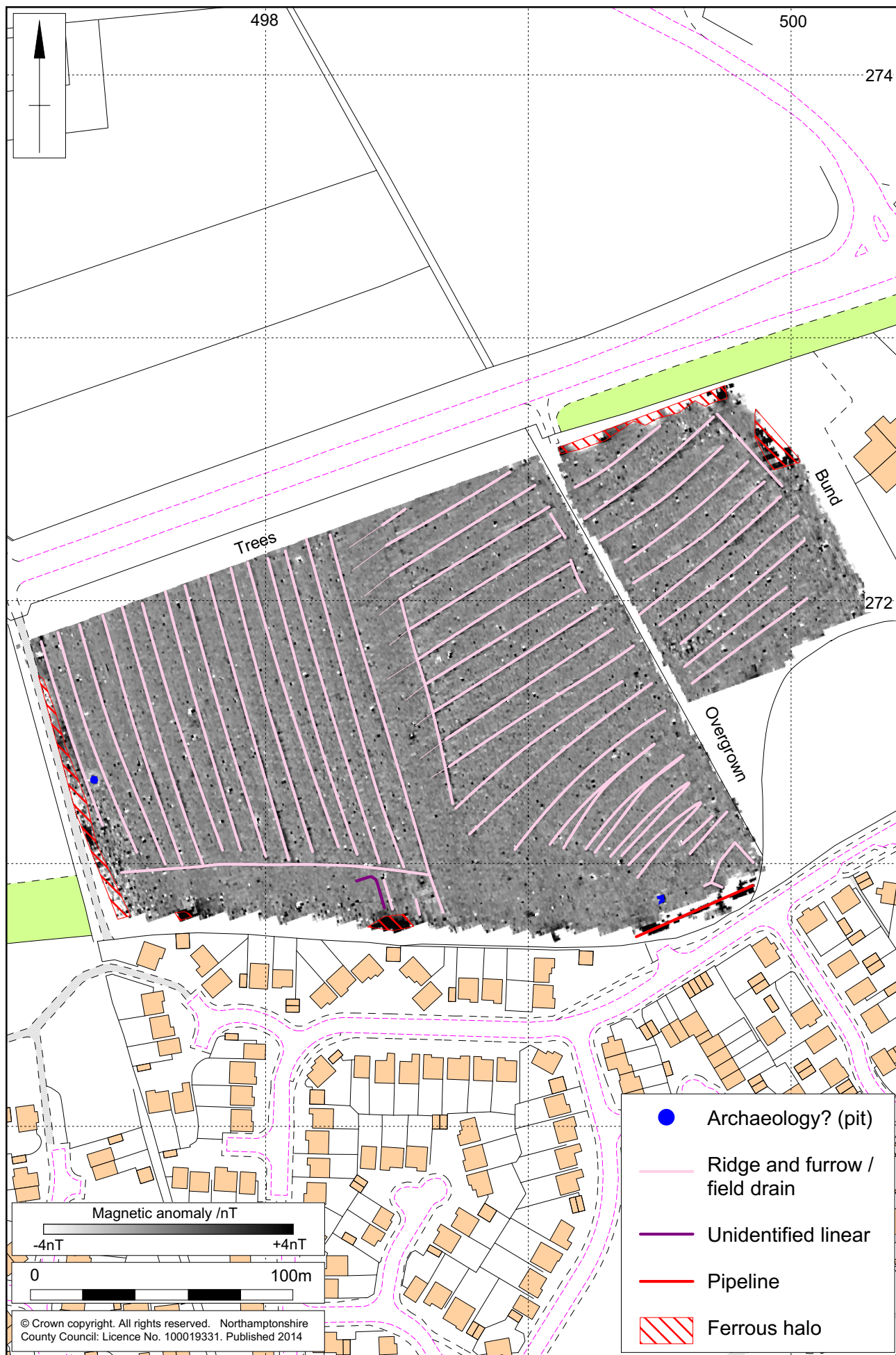
Scale 1:15,000

Site location Fig 1



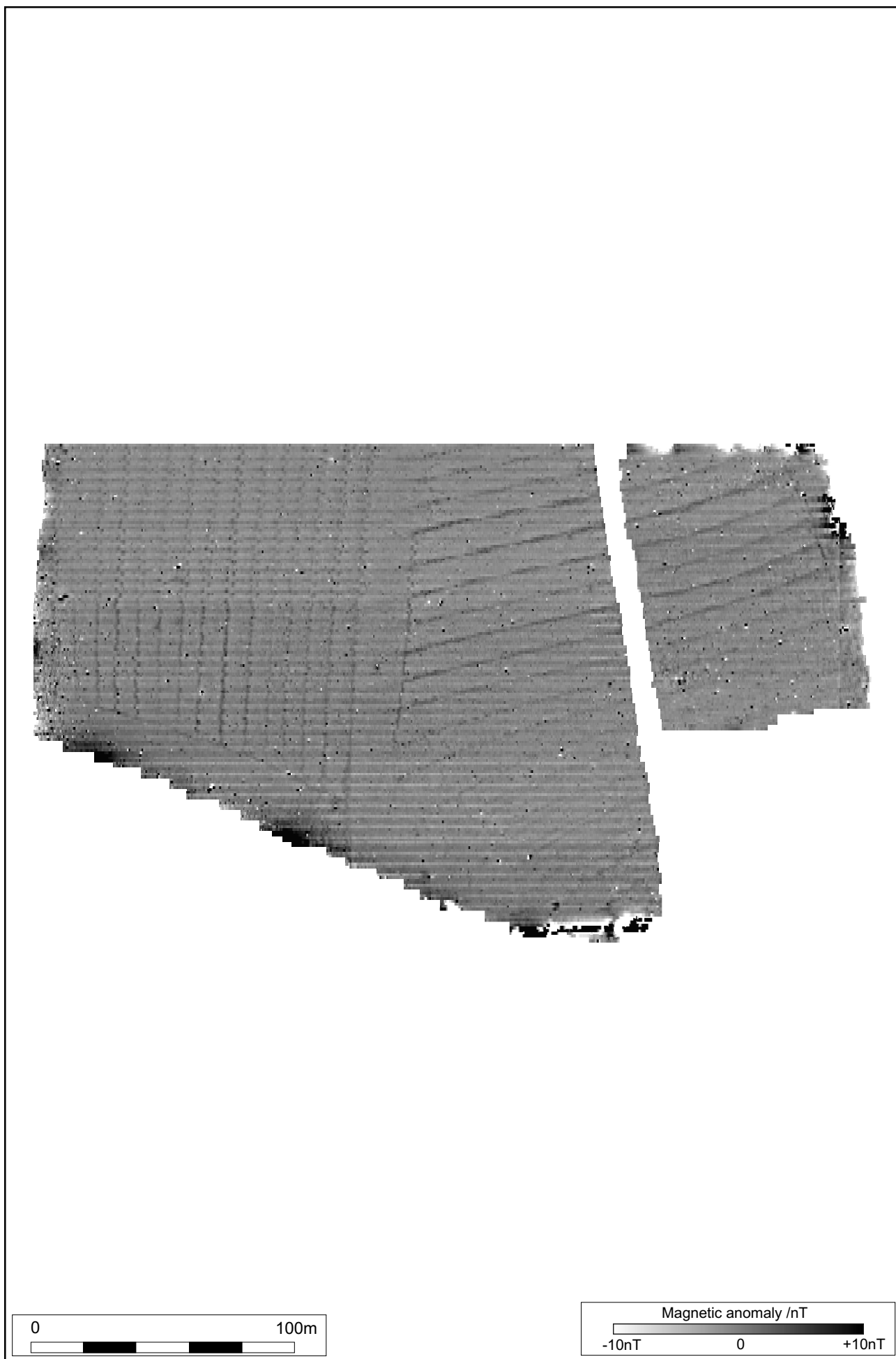
1:2000

Magnetometer survey results Fig 2



1:2000

Magnetometer survey interpretation Fig 3



1:2000

Unprocessed magnetometer data Fig 4

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