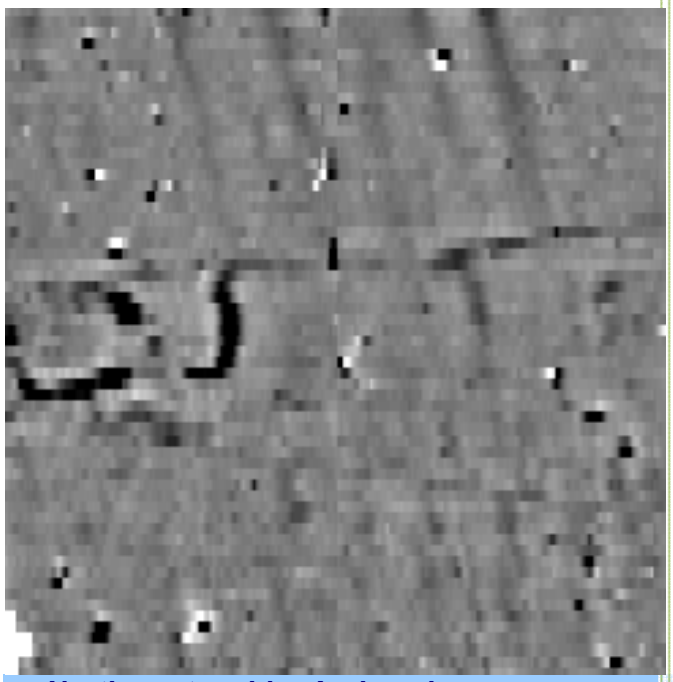
Northamptonshire Archaeology

Archaeological Geophysical Survey on Land at Medbourne Road, Drayton, Leicestershire September 2011



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Report 11/220

October 2011

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QUALITY CONTROL

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Checked by	Pat Chapman	*PC*	21/10/11
Verified & Approved by	Andy Chapman	*AC*	21/10/11

OASIS REPORT FORM

PROJECT DETAILS		
Project title	Archaeological geophysical survey on land at Medbourne Road, Drayton, Leicestershire.	
Short description	Northamptonshire Archaeology was commissioned by CgMs Consulting to carry out a magnetometer survey on 1.35ha of land to the west of the village of Drayton, Leicestershire. The investigation was carried prior to the determination of a planning application for the construction of a barn. The survey revealed possible enclosures, ditches and pits of unknown date and medieval ridge and furrow cultivation.	
Project type	Geophysical survey (detailed magnetometry)	
Site Status		
Previous work	Geophysical survey (detailed magnetometry)	
Current land use	Arable	
Future work	Unknown	
Monument type and period	Possible undated enclosures, ditches and pits; medieval ridge and furrow cultivation	
Significant finds	N/A	
PROJECT LOCATION		
County	Leicestershire	
Site address	Medbourne Road, Drayton, Leicestershire	
Post code		
OS co-ordinates	481970 291880	
Area (sq m/ha)	1.35 ha	
Height aOD	Approximately 65m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Leicestershire County Council Heritage and Environment Team	
Project Design originator		
Director/Supervisor	John Walford (NA)	
Project Manager	Adrian Butler (NA)	
Sponsor or funding body	Mike Dawson CgMs Consulting Ltd	
PROJECT DATE		
Start date	29/09/2011	
End date	21/10/2011	
ARCHIVES	**Location (Accession no.)**	**Contents**
Physical	NA	
Paper		1 archive box of forms and report
Digital		Dxf data, raw and processed survey files, report
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	Archaeological geophysical survey on land at Medbourne Road, Drayton, Leicestershire.	
Serial title & volume	11/220	
Author(s)	Adrian Butler	
Page numbers	5	
Date	21 October 2011	

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ARCHAEOLOGICAL GEOPHYSICAL SURVEY ON

LAND AT MEDBOURNE ROAD, DRAYTON, LEICESTERSHIRE

SEPTEMBER 2011

Abstract

Northamptonshire Archaeology was commissioned by CgMs Consulting to carry out a magnetometer survey on 1.35ha of land to the west of the village of Drayton, Leicestershire. The investigation was carried prior to the determination of a planning application for the construction of a barn. The survey revealed possible enclosures, ditches and pits of unknown date and medieval ridge and furrow cultivation.

1 INTRODUCTION

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting, to carry out an archaeological geophysical survey on land to the south of Medbourne Road, Drayton, Leicestershire (centred on NGR 481970 291880; Fig 1). The area is proposed for a new barn and the works were designed to inform an Archaeological Impact Assessment requested by the planning authority prior to determination of the planning application.

The investigation was required in order to supplement a recent survey carried out in March 2011 (Warner 2011) covering the proposed location of the planned dwellings and driveway.

2 BACKGROUND

The survey area comprises 1.35ha of land occupying an arable field which lies approximately 1km to the south-west of Drayton. The survey area is bounded to the north by the Medbourne Road and to the west by a hedge which divides the area from the adjacent field. A hay bale stack intruded into the survey area on the western side. An approximately 50m x 50m area had been topsoil stripped in the centre of the area and groundworks for footings commenced (Plate 1 and Fig 2).

Stripped area, looking south-west, Plate 1

The ground slopes down away from the Medbourne Road towards the River Welland, 450m to the south. The survey areas sit on the slope between the 60m and

70m contours. At the top of the slope the underlying geology comprises Dyrham Formation siltstone and mudstone which gives way to Charmouth mudstone on the lower, southern part of the site (BGS Geo Index).

Although no archaeological remains are known from the survey area itself, the proposed development area lies close to the historic settlement core of Drayton village. A recent geophysical survey was carried out in the adjacent field revealing possible ditches and medieval ridge and furrow cultivation (Warner 2011).

3 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 manually divided into 30m grid-squares by means of tape measure and optical square. A total of 31 full and partial grids were surveyed.

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 issued by English Heritage and by the Institute for Archaeologists (EH 2008; IfA 2010).

The survey data were processed using Geoplot 3.00.v. 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 grey-tone plots, at scales appropriate to the dataset (+/-4nT black/white). Given the area of the survey, stacked-trace plots have not been included on practical grounds. The grey-tone plots have been scaled, rotated and re-sampled (geo-rectified) for display against the Ordnance Survey base mapping (Fig 2). Interpretative overlays have been produced and are shown in Figure 3. A plot of the 'raw' (minimally processed) survey data is given in Figure 4.

4 SURVEY RESULTS

The majority of magnetic anomalies detected were parallel linear, positive and orientated north-west to south-east at *c* 8m intervals, representing a former ridge and furrow cultivation pattern. Small strongly dipolar (paired positive/negative) magnetic anomalies, likely to represent fragments of iron or ceramic debris contained within the topsoil, were detected across the entire survey area.

Features of archaeological interest were identified in the east and south-west of the area. On the eastern side of the area, positive curving magnetic anomalies described a possible penannular ditched enclosure *c* 10m in diameter. A sinuous positive anomaly was detected probably reflecting a ditch orientated south-west to north-east from the north of the enclosure to the eastern edge of the area. Two spurs southwards from the ditch may indicate further enclosing divisions. A narrow and weakly magnetised linear anomaly aligned to the south-east from the enclosure

possibly indicates a ditch completing the southern extent of a large enclosed space. Adjacent to the eastern edge of the survey area, within the aforementioned larger enclosure, a discrete positive magnetic anomaly indicates a likely pit.

An 'S-shaped' positive ditch anomaly was detected crossing the south-west corner of the survey area. To the east of that, a south to north positive magnetic ditch anomaly was identified from the south of the survey to the edge of the groundworks. A lozenge-shaped positive anomaly between the two ditches is likely to represent a pit.

5 CONCLUSIONS

Survey of the full 1.35ha area at Medbourne Road, Drayton was retarded by pre-existing excavations central to the area. Archaeological features including a line of two possible sub-rectangular and penannular enclosures was aligned east to west through the area, as far as the groundworks. Two further ditches were identified to the south-west of that area.

6 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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Heritage Gateway http://www.heritagegateway.org.uk (accessed 18/10/2011)

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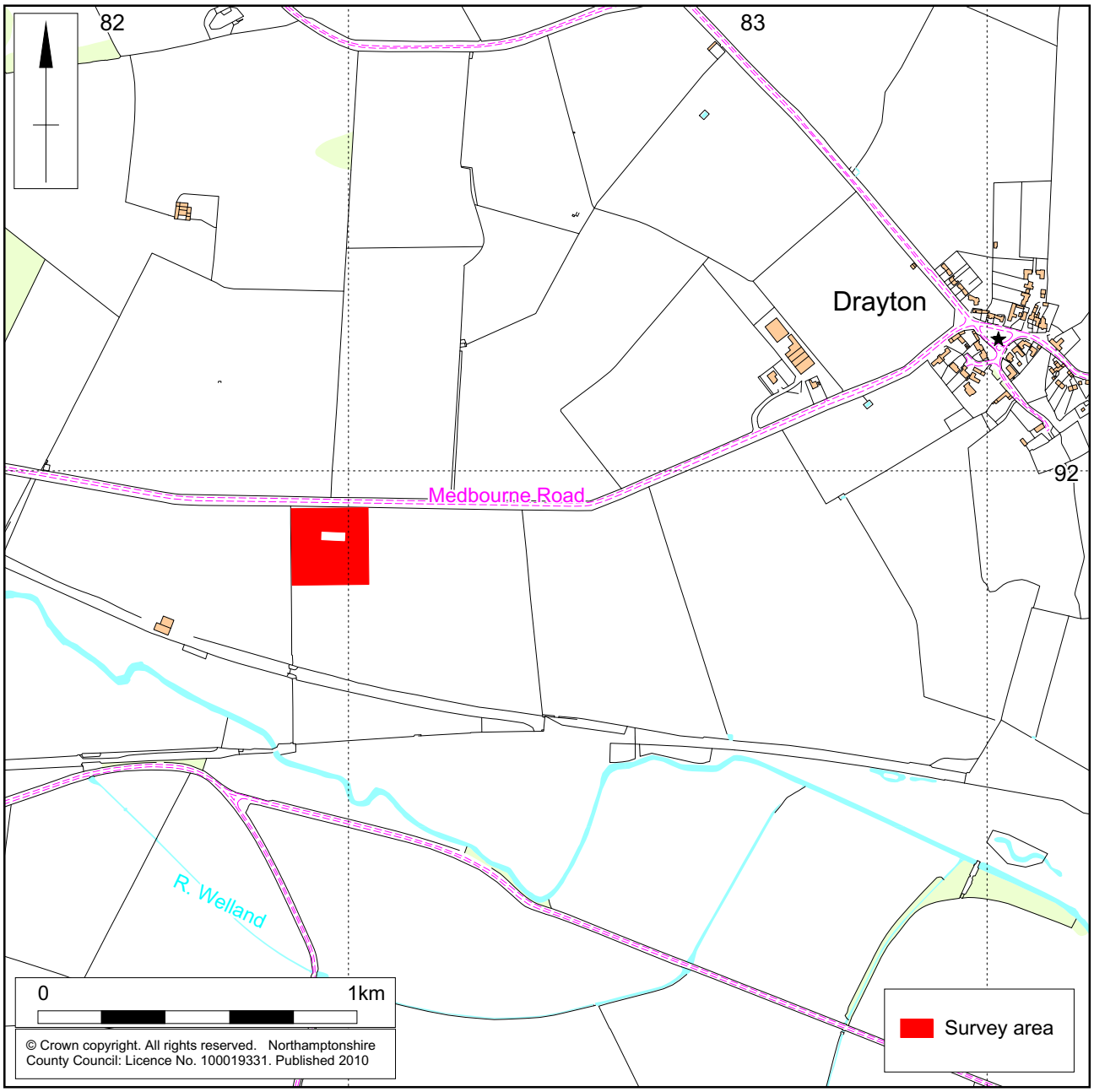
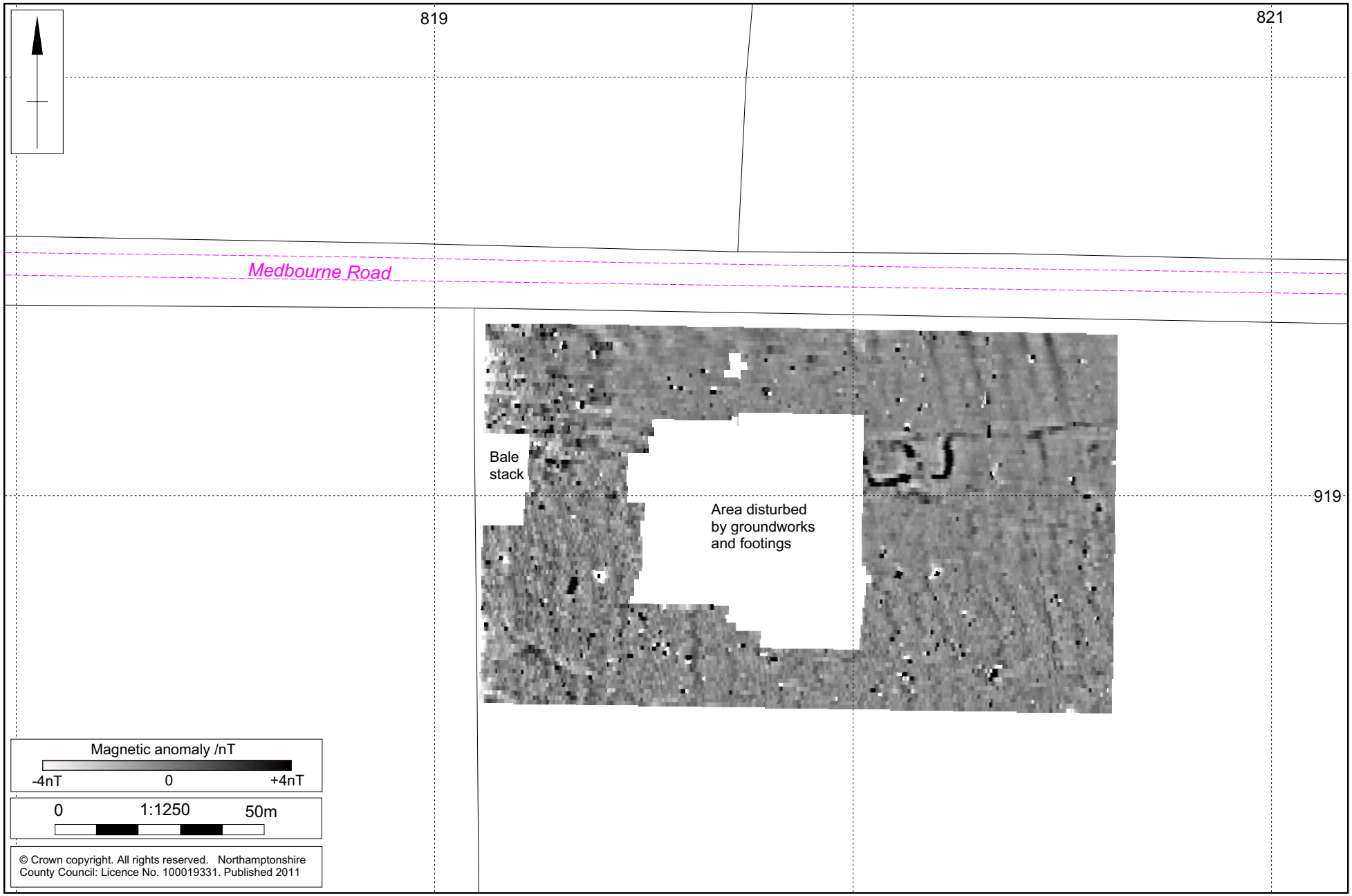


Scale 1:10,000

Site location Fig 1

Scale 1:1250



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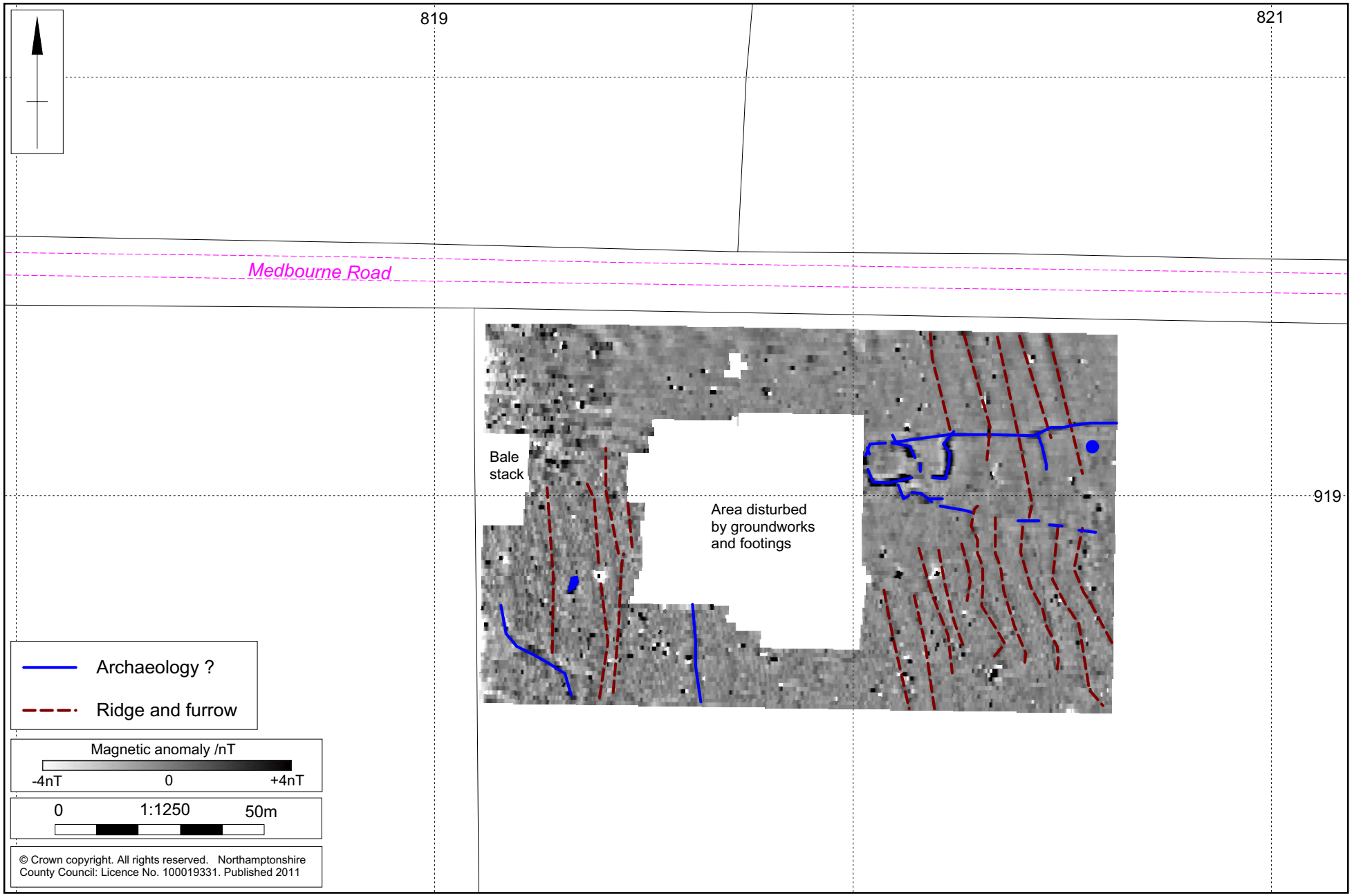
Magnetometer survey results Fig 2

Scale 1:1250



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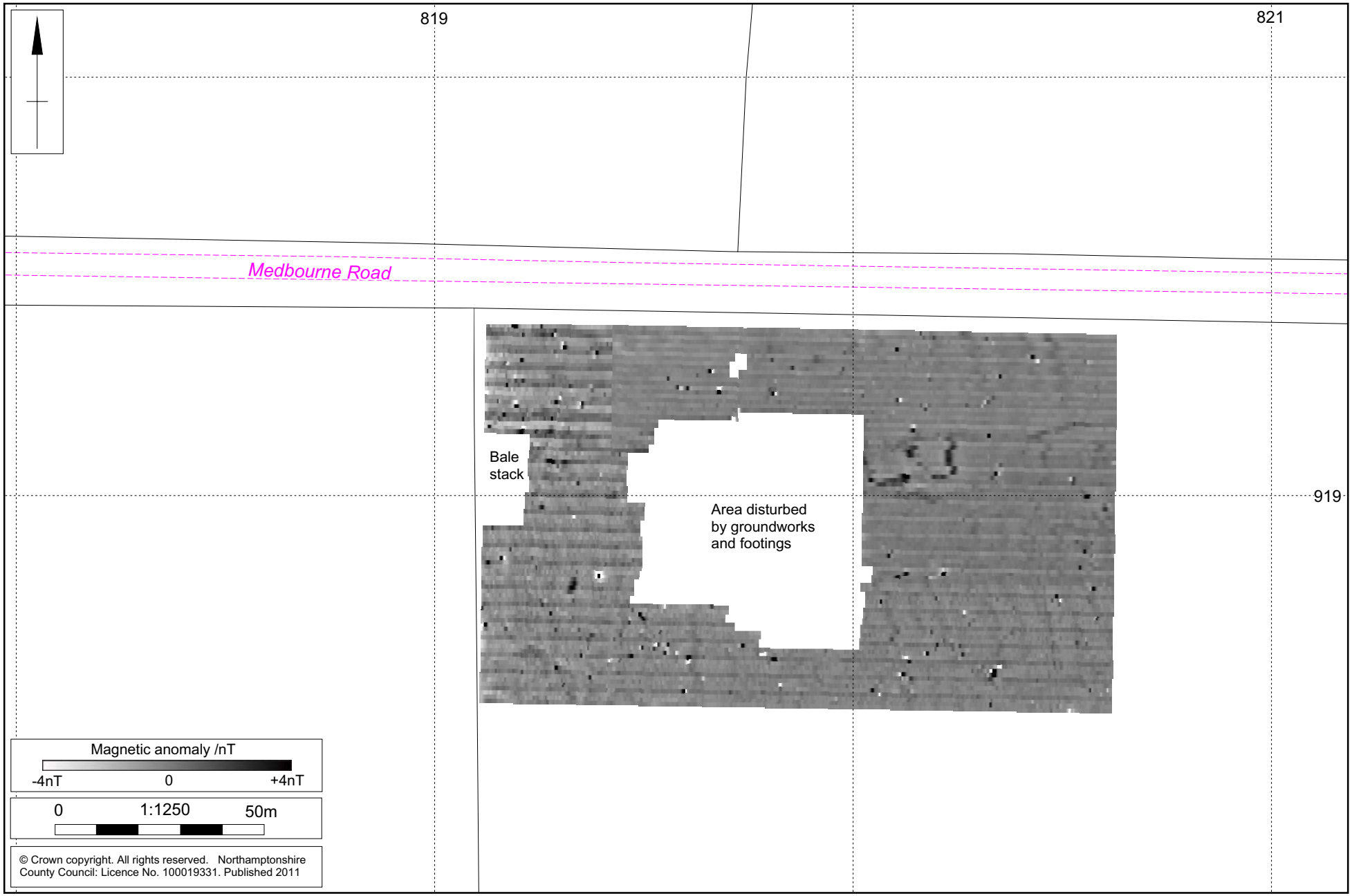
Magnetometer survey interpretation Fig 3

Scale 1:1250



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Magnetometer survey raw data Fig 4

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