

MAMK



## LAND AT MANSTON AIRFIELD, THANET, KENT

*Geophysical Survey*

*commissioned by URS Global*

*April 2014*





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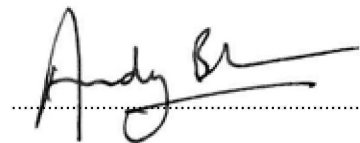
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Project Manager	Andy Boucher
Author	Alister Bartlett and Andy Boucher
Fieldwork	P. Cottrell and P. Heykoop (Bartlett Clarke Consultancy)
Graphics	Anna Sztromwasser
Approved by	Andy Boucher – Project Manager



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**Headland Archaeology  
Midlands & West**

Unit 1, Premier Business Park, Faraday Road  
Hereford HR4 9NZ

01432 364 901

[midlandsandwest@headlandarchaeology.com](mailto:midlandsandwest@headlandarchaeology.com)

[www.headlandarchaeology.com](http://www.headlandarchaeology.com)





## CONTENTS

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<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>2</b>	<b>THE SITE</b>	<b>1</b>
	2.1 Location and topography	1
	2.2 Archaeological background	1
<b>3</b>	<b>SURVEY PROCEDURE</b>	<b>1</b>
	3.1 Survey location	2
<b>4</b>	<b>RESULTS</b>	<b>2</b>
<b>5</b>	<b>CONCLUSIONS</b>	<b>2</b>



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## LIST OF ILLUSTRATIONS

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<b>Illus 1</b>		3
	<i>Magnetometer survey (grey scale plot)</i>	
<b>Illus 2</b>		5
	<i>Magnetometer survey (with interpretation)</i>	
<b>Illus 3</b>		7
	<i>Magnetometer survey (with interpretation)</i>	
<b>Illus 4</b>		9
	<i>Summary of findings</i>	





# LAND AT MANSTON AIRFIELD, THANET, KENT

## Geophysical Survey

*A geophysical survey, using fluxgate gradiometry, of a c. 14ha site to the west of Manston in Kent identified what appear to be the remains of two round barrows as well as other features that might relate to later enclosure and possibly earlier long-barrow type structures. Further work would be required to prove the above assumptions.*

## 1 INTRODUCTION

This geophysical survey is to form part of an archaeological field evaluation of a proposed development site adjacent to Manston Airfield, Kent.

The survey was commissioned by URS Global. Fieldwork for the survey was undertaken by staff of Bartlett-Clarke Consultancy on 1–3 March 2014.

## 2 THE SITE

### 2.1 Location and topography

The site is located in farmland between the north-eastern perimeter of Manston airfield and Manston village. The proposed development area is bounded by an outline as indicated in **Illus 1**, and is centred approximately at NGR 634400, 166100. The survey coverage amounts to 14.4ha.

The ground within the site is relatively level at an elevation of c. 50m OD, and was under a young cereal crop at the time of the survey. The bedrock is chalk (Margate Chalk Member), and the site is also covered by till composed of variable Quaternary drift deposits of clay and silt. The slightly raised background noise level visible in the survey plots suggests there could also be a gravel component (containing small naturally magnetic stones) in the drift material.

Soils on chalk bedrock usually provide favourable conditions for the magnetic detection of archaeological features (as has been seen in previous surveys in Thanet), and this was confirmed by magnetic susceptibility readings taken at the site during the survey. These gave relatively high values (in a range 30–48 x 10<sup>-5</sup> SI), and so indicate the soil should be magnetically responsive. It remains probable, however, that the magnetic contrast of features within the drift material will be weaker than for ditches or pits cut directly into chalk.

### 2.2 Archaeological background

The site is in an area of high archaeological potential, as has been determined by previous surveys and excavations in advance of road works on the line of the A299 and elsewhere. The only information available to the authors regarding potential archaeological targets near the present evaluation area is the presence of chalk pits shown on the 1st edition OS map to the north of the site.

## 3 SURVEY PROCEDURE

The method used for the investigation was a recorded magnetometer survey, with readings collected along transects 1m apart using Bartington 1m fluxgate gradiometers, and plotted at 25cm intervals along each transect. The results of the survey are presented as a grey scale plot at 1:2000 scale (**Illus 1**), and as a graphical (X–Y trace) plot at 1:1250 in **Illus 2–3**.

The xy trace plot displays initial data which is effectively unprocessed apart from baseline corrections which are required for intelligibility. The grey scale plots are subject to weak low pass filtering to adjust background noise levels, but no more intrusive processing is applied to the magnetometer data. Comparison of the trace and grey scale plots allows the detected magnetic anomalies to be examined in profile and plan respectively.

An interpretation of the findings is shown superimposed on **Illus 2–3** (which permits the interpreted outlines to be compared with the underlying data), and is reproduced separately to provide a summary of the findings (**Illus 4**). Colour coding has been used in the interpretation to distinguish different effects.

Features of possible archaeological interest are shown in red, and weaker or non-archaeological disturbances in light brown. Recent disturbances are in grey, and strong magnetic anomalies which are likely to represent ferrous objects are in blue. Pipes are also shown in blue.

The magnetometer survey was supplemented by a background magnetic susceptibility readings taken at intervals across the site.

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Susceptibility information provides an indication of the strength of magnetic response to be expected from the site, and can be of help when interpreting the magnetometer survey, as commented on above.

### 3.1 Survey location

The survey grid was set out and tied to the OS grid using a differential GPS system (with VRS correction to give c. 10cm accuracy). The plans are therefore geo-referenced, and OS co-ordinates of map locations can be read from the AutoCAD version of the plans which can be supplied with this report.

## 4 RESULTS

The survey has detected a variety of subsurface features and disturbances, some of which clearly represent archaeological features, although the significance of others is more difficult to determine.

The most distinct findings are two circular features (as outlined in red and labelled A and B in **Illus 4**). These apparently represent ring ditches (possibly round barrows), each 25–30m in diameter. A curving arc at C could perhaps represent part of another such feature, but it must be heavily eroded if so, and is not clearly distinguishable from background magnetic activity.

The grey scale plot indicates other enclosure-like magnetic anomalies, the most distinct of which are elliptical features at D and E, and perhaps another (near to recent disturbances and a visible hollow) at F. These features are perhaps broader and more diffuse than would be expected for ancient ditched enclosures, and so could perhaps indicate disturbances at the edges of former chalk pits (which, if so, must contain clean natural fill rather than imported debris). The much stronger disturbances in the south-eastern corner of the survey at G correspond to a visible hollow, which probably contains modern fill and ferrous debris. Other such disturbances at H and J also include large ferrous objects in their fill. Most other ferrous items (as outlined in blue) are smaller, and randomly distributed across the site.

The remaining findings are weaker and more extended linear markings (as indicated by light brown lines in **Illus 4**). These could possibly indicate silted pits or hollows (or perhaps a trackway at K), but that cannot be confirmed. It is perhaps more likely that they are natural, and relate to boundaries between the different materials forming the till.

## 5 CONCLUSIONS

The survey has detected at least two distinct ring ditches of a kind which are likely to represent archaeological features. Various other more irregular or indistinct enclosure-like features and linear markings have also been detected, but their significance remains unclear. It is possible some could indicate former chalk pits, and others could be natural. Various strong recent disturbances were also detected.



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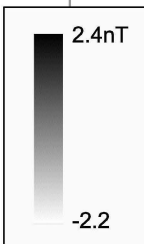
MANSTON ROAD

634400E



3

2



166000N



Proposed  
survey area

Surveyed by: Bartlett-Clark Consultancy 01865 200864  
for: Headland Archaeology (UK) Ltd

LAND AT MANSTON AIRFIELD  
THANET, KENT  
Geophysical Survey 2014  
Illustration 1: Magnetometer survey  
(grey scale plot)

0 Scale 1:2000 @ A3 100m



Background mapping includes Ordnance Survey Digital Data.  
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hone Exchange

45.4m

MANSTON ROAD

MANSTON ROAD






46.9m



ruin

44.8m

50 nT

-  magnetic anomalies (archaeological ?)
-  possible weak uncertain magnetic anomalies (shallow / eroded earthwork features ?)
-  strong magnetic disturbances (recent / non-archaeological)
-  pipe (and associated magnetic disturbance)
-  strong (ferrous) magnetic anomalies

Jubilee Cottage

Manston Green-Fan

Grenham Lodge

Surveyed by: Bartlett-Clark Consultancy 01865 200864  
for: Headland Archaeology (UK) Ltd






LAND AT MANSTON AIRFIELD  
THANET, KENT  
Geophysical Survey 2014  
Illustration 2: Magnetometer survey  
(with interpretation)

0 1:1250 @ A3 50m



Background mapping includes Ordnance Survey Digital Data.  
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50 nT

-  magnetic anomalies (archaeological ?)
-  possible weak uncertain magnetic anomalies (shallow / eroded earthwork features ?)
-  strong magnetic disturbances (recent / non-archaeological)
-  pipe (and associated magnetic disturbance)
-  strong (ferrous) magnetic anomalies



Manston Methodist Church

Rowan Cottage

Chapel Farm

Willow Bank Nursery

Willowbank

Bush Farm

Mast (Telecommunication)

LAND AT MANSTON AIRFIELD  
THANET, KENT  
Geophysical Survey 2014  
Illustration 3: Magnetometer survey  
(with interpretation)

0 1:1250 @ A3 50m

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MANSTON ROAD

634400E



-  magnetic anomalies (archaeological ?)
-  possible weak uncertain magnetic anomalies (shallow / eroded earthwork features ?)
-  strong magnetic disturbances (recent / non-archaeological)
-  pipe (and associated magnetic disturbance)
-  strong (ferrous) magnetic anomalies

166000N

**LAND AT MANSTON AIRFIELD  
THANET, KENT**  
**Geophysical Survey 2014**  
**Illustration 4: Summary of findings**

0      Scale 1:2000 @ A3      100m

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**Headland Archaeology  
North East**

13 Jane Street  
Edinburgh EH6 5HE

0131 467 7705  
northeast@headlandarchaeology.com

**Headland Archaeology  
North West**

10 Payne Street  
Glasgow G4 0LF

0141 354 8100  
northwest@headlandarchaeology.com

**Headland Archaeology  
Midlands & West**

Unit 1, Premier Business Park, Faraday Road  
Hereford HR4 9NZ

01432 364 901  
midlandsandwest@headlandarchaeology.com

**Headland Archaeology  
South & East**

Building 68A, Wrest Park, Silsoe  
Bedfordshire MK45 4HS

01525 861 578  
southeast@headlandarchaeology.com

**[www.headlandarchaeology.com](http://www.headlandarchaeology.com)**