



**Archaeological geophysical survey of land to the  
south and west of Whitworth Way, Wilstead  
Bedfordshire  
August 2015**

Accession No: BEDFM 2015.65

Report No: 15/154

Author: John Walford

Illustrator: John Walford





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**OASIS REPORT**

<b>PROJECT DETAILS</b>		Oasis No. molanort1-221815	
Project name	Archaeological geophysical survey of land to the south and west of Whitworth Way, Wilstead, Bedfordshire		
Short description	MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Whitworth Way, Wilstead, Bedfordshire. The survey data contained a few weak and disjointed anomalies of uncertain origin, and one which may relate to a 19th-century field boundary. No certain archaeological features were identified.		
Project type	Geophysical survey		
Site status	None		
Previous work	Desk-based assessment (EDP 2015)		
Current land use	Arable		
Future work	Unknown		
Monument type/ period	Uncertain		
Significant finds	None		
<b>PROJECT LOCATION</b>			
County	Bedfordshire		
Site address	Whitworth Way, Wilstead		
Study area	c 2.5ha		
OS Easting & Northing	TL 067 433		
Height OD	c 40m aOD		
<b>PROJECT CREATORS</b>			
Organisation	MOLA Northampton		
Project brief originator	EDP		
Project design originator	MOLA Northampton		
Director/Supervisor	John Walford		
Project Manager	John Walford		
Sponsor or funding body	EDP		
<b>PROJECT DATE</b>			
Start date	19 August 2015		
End date	19 August 2015		
<b>ARCHIVES</b>	Location	Content	
Physical	N/A		
Paper	MOLA Northampton	Site survey records	
Digital		Geophysical survey & GIS data	
<b>BIBLIOGRAPHY</b>	Journal/monograph, published or forthcoming, or unpublished client report		
Title	Archaeological geophysical survey of land to the south and west of Whitworth Way, Wilstead, Bedfordshire, August 2015		
Serial title & volume	MOLA Northampton Reports 15/154		
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# Archaeological geophysical survey of land to the south and west of Whitworth Way Wilstead, Bedfordshire August 2015

## ABSTRACT

*MOLA Northampton was commissioned to carry out a detailed magnetometer survey at Whitworth Way, Wilstead, Bedfordshire. The survey data contained a few weak and disjointed anomalies of uncertain origin, and one which may relate to a 19th-century field boundary. No certain archaeological features were identified.*

## 1 INTRODUCTION

MOLA was commissioned by the Environmental Dimension Partnership (EDP) to conduct a geophysical survey on c 2.9ha of land at Whitworth Way, Wilstead, Bedfordshire (NGR TL 067 433; Fig 1). The purpose of the survey was to identify and map any archaeological remains which might be affected by a proposed development scheme. The fieldwork was undertaken from 19th August 2015 and has been recorded with Bedford Museum under accession number BEDFM 2015.65.

## 2 BACKGROUND

### 2.1 Topography and geology

The survey area comprises a small arable field, 2.9ha in extent, located on the southern edge of Wilstead to the south-west of Whitworth Way. The northern part of the field is bounded by a telephone exchange and by modern housing and there is agricultural land to the west, south and east (Fig 1). A small clump of trees against the northern site boundary and a belt of saplings along the southern boundary reduced the surveyable extent of the field to c 2.5ha (Fig 2).

The survey occupies an almost flat piece of land at 40m aOD. It lies over an Oxford Clay geology (undifferentiated Stewartby or Weymouth member) and is overlooked by a scarp of Lower Greensand which rises approximately 1km to the south (BGS 2015).

### 2.2 Historical and archaeological background

The survey area lies outside of the historic core of Wilstead and is not known to contain any archaeological remains other than ridge and furrow, the earthworks of which are now levelled. The earliest available map, dating from 1809 (EDP 2015, plan EDP2), shows the area had been enclosed prior to that date and was crossed by a field boundary which divided a narrow strip of land in the north-east from a larger field in the south-west. The first edition Ordnance Survey map (1883) shows these two fields to have been amalgamated and also depicts a pair of ponds located at the northern end of the field in the area where the clump of trees now stands.

Approximately 440m to the west of the survey area, part of a small Iron Age to Roman farmstead has been excavated (EDP 2015, 15-16). It is, however, considered unlikely that this site will have been extensive enough to continue into the survey area.

### 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).

A network of 30m grid squares was established across the field to be surveyed. These 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 Historic England and by the Chartered Institute for Archaeologists (HE 2015; ClfA 2014).

The survey data was 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 as a greyscale plot (range +4nT to -4nT / black to white), rotated and scaled for display against the Ordnance Survey base mapping (Fig 2). An interpretative plot is provided as Figure 3 and a plot of the unprocessed data as Figure 4.

### 4 SURVEY RESULTS

The survey results are generally subdued, with much subtle background patterning and only a few conspicuous magnetic anomalies. One of the anomalies that has been detected may relate to a historic field boundary and others can be attributed to modern field drains and ferrous debris but there are others which are too weak and ill-defined to support any confident interpretation.

A short (c 20m long), moderately weak positive linear anomaly lies midway along the north-eastern edge of the survey area. Its position and alignment match approximately with the historic field boundary depicted on the 1809 map (see above), and it seems probable that it could represent a part of the backfilled boundary ditch.

The field drains are represented by a series of weak linear anomalies which have characteristic alternating magnetic polarities. They follow various alignments and no overall scheme of drainage can be discerned.

Small but intense dipolar and monopolar magnetic anomalies are widespread across the survey area. They indicate small pieces of ferrous debris (horseshoes, plough fittings, *etc*) scattered in the ploughsoil. There are also a few ferrous halos around the edge of the survey area, arising from adjacent fences and other metal structures. The most conspicuous of these relate to the mesh fence surrounding the telephone exchange at the northern end of the field.

Much of the survey data, especially from the western half of the field, exhibits an irregular pattern of small, closely spaced, weakly positive magnetic anomalies. These are amorphous, although tending towards elongation along a north-south axis. Such patterning is likely to have a geological origin, perhaps representing pockets of iron mineralisation or else small periglacial structures in the surface of the underlying clay.

A few other weak anomalies, mostly concentrated towards the centre of the site, are more ambiguous in nature. Whilst a geological origin for these is considered most likely,



they do exhibit some slight traces of order and linearity which might be consistent with them arising from archaeological features (*ie* ditches and pits)." Similarly, there is a very small annular anomaly at the northern end of the site which is fairly undiagnostic and could represent either a small archaeological feature or a chance grouping of ferrous objects in the ploughsoil.

## 5 CONCLUSION

No definite archaeological anomalies were detected by the survey. The anomalies which were detected have indeterminate origins and, whilst they could be most plausibly attributed to natural variations in the underlying clay, the possibility that they represent poorly resolved traces of archaeological ditches and pits cannot be entirely ruled out.

## BIBLIOGRAPHY

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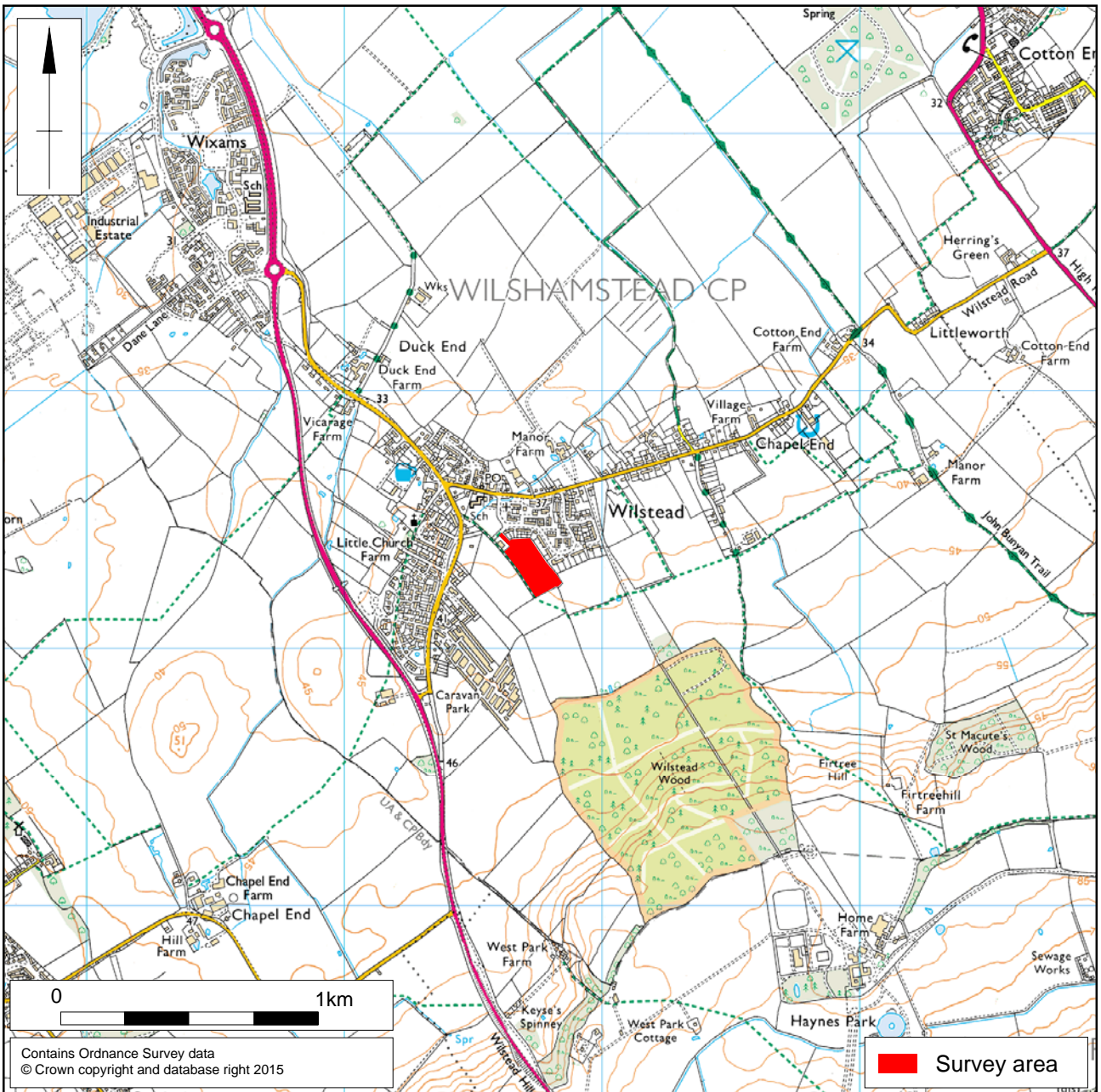
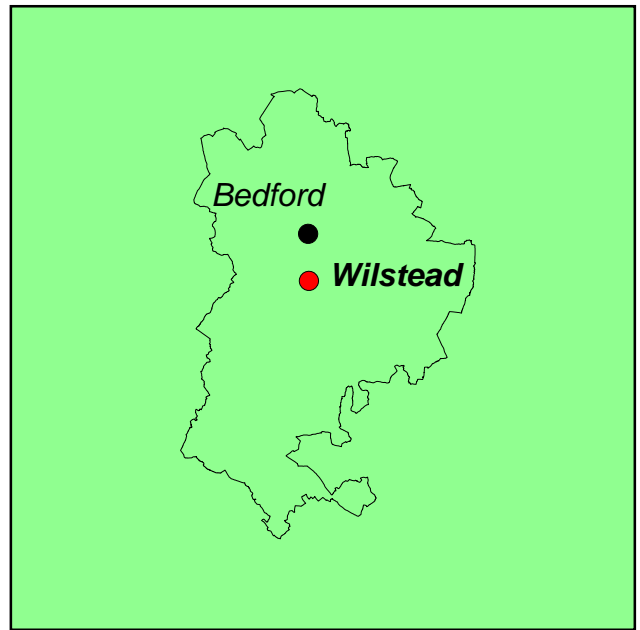
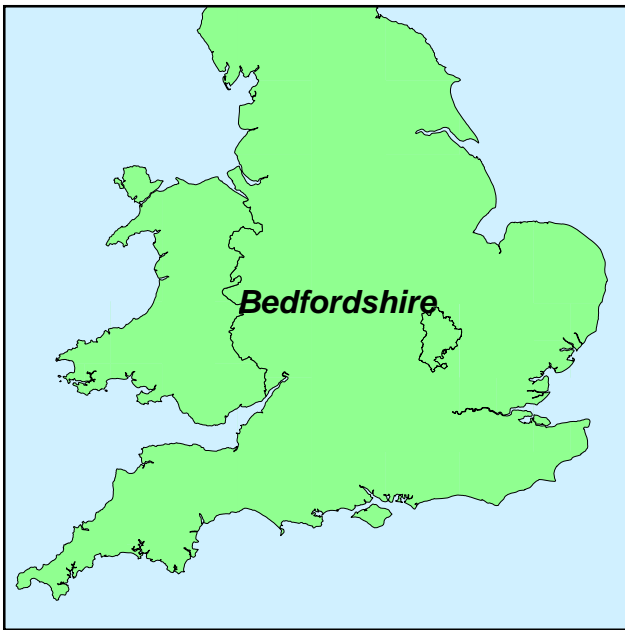
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MOLA  
11 September 2015



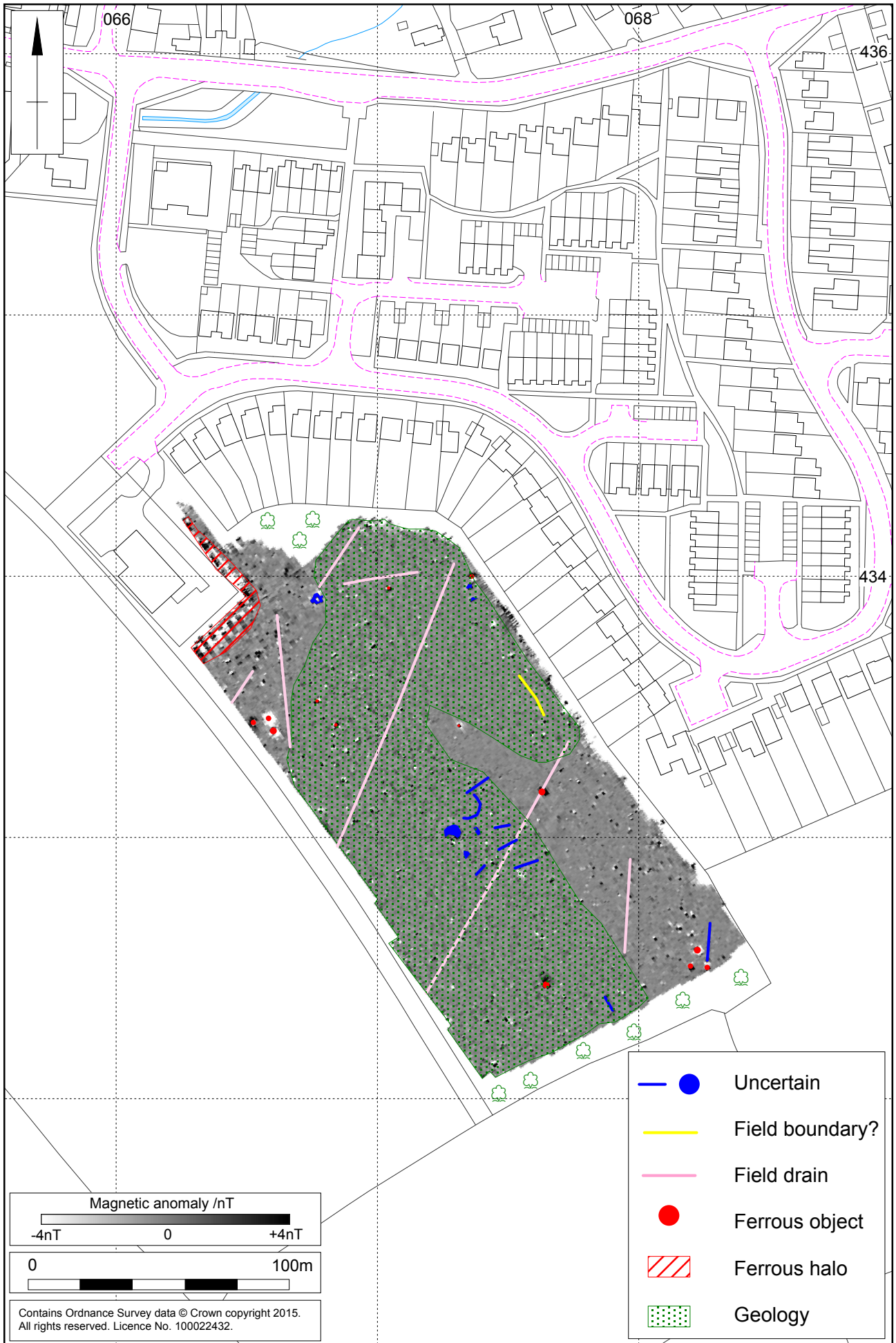
Scale 1:25,000

Survey area 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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