



# Northamptonshire Archaeology

Archaeological geophysical survey at  
Warren Crescent, Oxford  
January 2013



## Northamptonshire Archaeology

2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE  
t. 01604 700493 f. 01604 702822  
e. [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)  
w. [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



Northamptonshire  
County Council

John Walford

Report 13/19

January 2013



**STAFF**

Project Manager: Mark Holmes BA MA MifA

Fieldwork: Chris Chinnock MSc  
Adam Meadows BSc

Text and Illustrations: John Walford MSc

**QUALITY CONTROL**

|             | Print name   | Signed    | Date       |
|-------------|--------------|-----------|------------|
| Checked by  | Pat Chapman  | <i>PC</i> | 24/01/2013 |
| Verified by | Mark Holmes  | <i>MH</i> | 24/01/2013 |
| Approved by | Andy Chapman | <i>AC</i> | 24/01/2013 |

**OASIS REPORT FORM**

**OASIS No: 141648**

| PROJECT DETAILS           |   |
|---------------------------|---|
| Project name              | Archaeological geophysical survey of land at Warren Crescent, Oxford January 2013   |
| Short description         | Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey on a proposed development site at Warren Crescent, Oxford. It proved impossible to determine whether any archaeological remains were present, because the survey results were dominated by intense magnetic anomalies arising from modern infrastructure and construction debris. |
| Project type              | Geophysical survey  |
| Site status               | None  |
| Previous work             | None  |
| Current Land use          | Amenity land  |
| Future work               | Unknown   |
| Monument type/ period     | None  |
| Significant finds         | None  |
| PROJECT LOCATION          |   |
| County                    | Oxfordshire   |
| Site address              | Warren Crescent, Oxford   |
| Study area                | c 0.3ha   |
| OS grid reference         | SP 548 060  |
| Height OD                 | c 95m aOD   |
| PROJECT CREATORS          |   |
| Organisation              | Northamptonshire Archaeology (NA)   |
| Project brief originator  | Oxfordshire County Council  |
| Project Design originator | NA  |
| Director/Supervisor       | Chris Chinnock  |
| Project Manager           | Mark Holmes   |
| Sponsor or funding body   | CgMs Consulting   |
| PROJECT DATE              |   |
| Start date                | 14 January 2013   |
| End date                  | 14 January 2013   |
| ARCHIVES                  |   |
| Physical                  | N/A   |
| Paper                     | NA  |
| Digital                   | NA  |
|                           | Site survey records   |
|                           | Geophysical survey & GIS data   |
| BIBLIOGRAPHY              |   |
|                           | Journal/monograph, published or forthcoming, or unpublished client report   |
| Title                     | Archaeological geophysical survey of land at Warren Crescent, Oxford January 2013   |
| Serial title & volume     | Northamptonshire Archaeology Reports 13/19  |
| Author(s)                 | John Walford  |
| Page numbers              | 6   |
| Date                      | 24 January 2013   |

# Contents

|          |                                  |          |
|----------|----------------------------------|----------|
| <b>1</b> | <b>INTRODUCTION</b>              | <b>1</b> |
| <b>2</b> | <b>TOPOGRAPHY AND GEOLOGY</b>    | <b>1</b> |
| <b>3</b> | <b>ARCHAEOLOGICAL BACKGROUND</b> | <b>2</b> |
| <b>4</b> | <b>METHODOLOGY</b>               | <b>2</b> |
| <b>5</b> | <b>SURVEY RESULTS</b>            | <b>3</b> |
| <b>6</b> | <b>CONCLUSION</b>                | <b>3</b> |
|          | <b>BIBLIOGRAPHY</b>              | <b>4</b> |

## Figures

Cover Magnetometer survey results

|       |                                    |         |
|-------|------------------------------------|---------|
| Fig 1 | Site location                      | 1:5,000 |
| Fig 2 | Magnetometer survey results        | 1:1,000 |
| Fig 3 | Magnetometer survey interpretation | 1:1,000 |
| Fig 4 | XY trace plot                      | 1:1,000 |



**ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF LAND AT  
WARREN CRESCENT, OXFORD  
JANUARY 2013**

**ABSTRACT**

*Northamptonshire Archaeology was commissioned to carry out a detailed magnetometer survey on a proposed development site at Warren Crescent, Oxford. It proved impossible to determine whether any archaeological remains were present, because the survey results were dominated by intense magnetic anomalies arising from modern infrastructure and construction debris.*

**1 INTRODUCTION**

Northamptonshire Archaeology (NA) was commissioned by CgMs Consulting to conduct an archaeological geophysical survey in advance of proposed development at Warren Crescent, Oxford (NGR SP 548 060; Fig 1). The purpose of the survey was to provide information on the likely archaeological impact of the development. The methodology was set out in a written scheme of investigation (NA 2013) and was approved by Oxfordshire County Council's Planning Archaeologist.

Fieldwork was undertaken on the 14th January 2013, and comprised the detailed magnetometer survey of c 0.3ha of land.

**2 TOPOGRAPHY AND GEOLOGY**

Warren Crescent is located in the Headington area of Oxford, a little way to the east of the Churchill Hospital. The proposed development area comprises a narrow, irregularly-shaped strip of grassland which adjoins the southern end of the Crescent and is bounded to the south-east by a steep wooded slope on the edge of Lye Valley fen.

The surface of the proposed development is almost flat, and stands at a height of about 95m aOD. The underlying geology comprises Corallian Group deposits; specifically the Wheatly Limestone and Beckly Sand. To the immediate south-east, in the Lye Valley, there are deposits of alluvium and fen peat (BGS 2012)

### **3 ARCHAEOLOGICAL BACKGROUND**

The proposed development area lies in the eastern suburbs of Oxford; an area particularly noted for its Roman archaeology. Large numbers of pottery kilns have been found in a wide area in the vicinity. However, only stray pottery sherds have been found in the neighbourhood during evaluations and watching briefs (Oxford HER).

Historic maps of the area show nothing of interest within the survey area. A track ran along the western edge of the site from 1880 until the 1960s.

### **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 tape measure and optical square were used to lay out a grid of 30m squares across the survey area. This grid was tied in to the Ordnance Survey National Grid by measurement to surrounding points of detail. 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 was viewed using Geoplot 3.00v software. Exceptionally, no processing was undertaken, as the data was dominated by intense magnetic noise to which no processing function could usefully be applied.

The data is presented in the form of a grey-tone plot (+/- 50nT black/white), which 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. An X-Y trace plot of the unprocessed data is presented in Figure 4.

## **5 SURVEY RESULTS**

The survey data is dominated by an almost incoherent mass of intermingled magnetic dipoles and halos. Some of these will have been caused by the manhole covers that occur at various points across the survey area and others by the adjacent fences, buildings and parked cars. The remainder almost certainly represent a dense scatter of ferrous debris, brick rubble and other modern materials.

If any archaeological remains are present on the site, it will be impossible to identify them in the present data set. The intense magnetic noise will not only mask the anomalies that archaeological features might produce, but it would be impossible to separate the anomalies from the background noise.

The data neither demonstrates nor disproves the presence of archaeological remains within the proposed development area.

## **6 CONCLUSION**

The survey has not achieved its aim of determining whether archaeological remains are present within the proposed development area. This is because the data is dominated by anomalies arising from modern structures, including manholes and fences, and by general magnetic 'noise' which may relate to a spread of construction waste. Under these circumstances, any archaeological remains that may be present (perhaps sealed beneath made ground) will have been impossible to detect.

**BIBLIOGRAPHY**

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

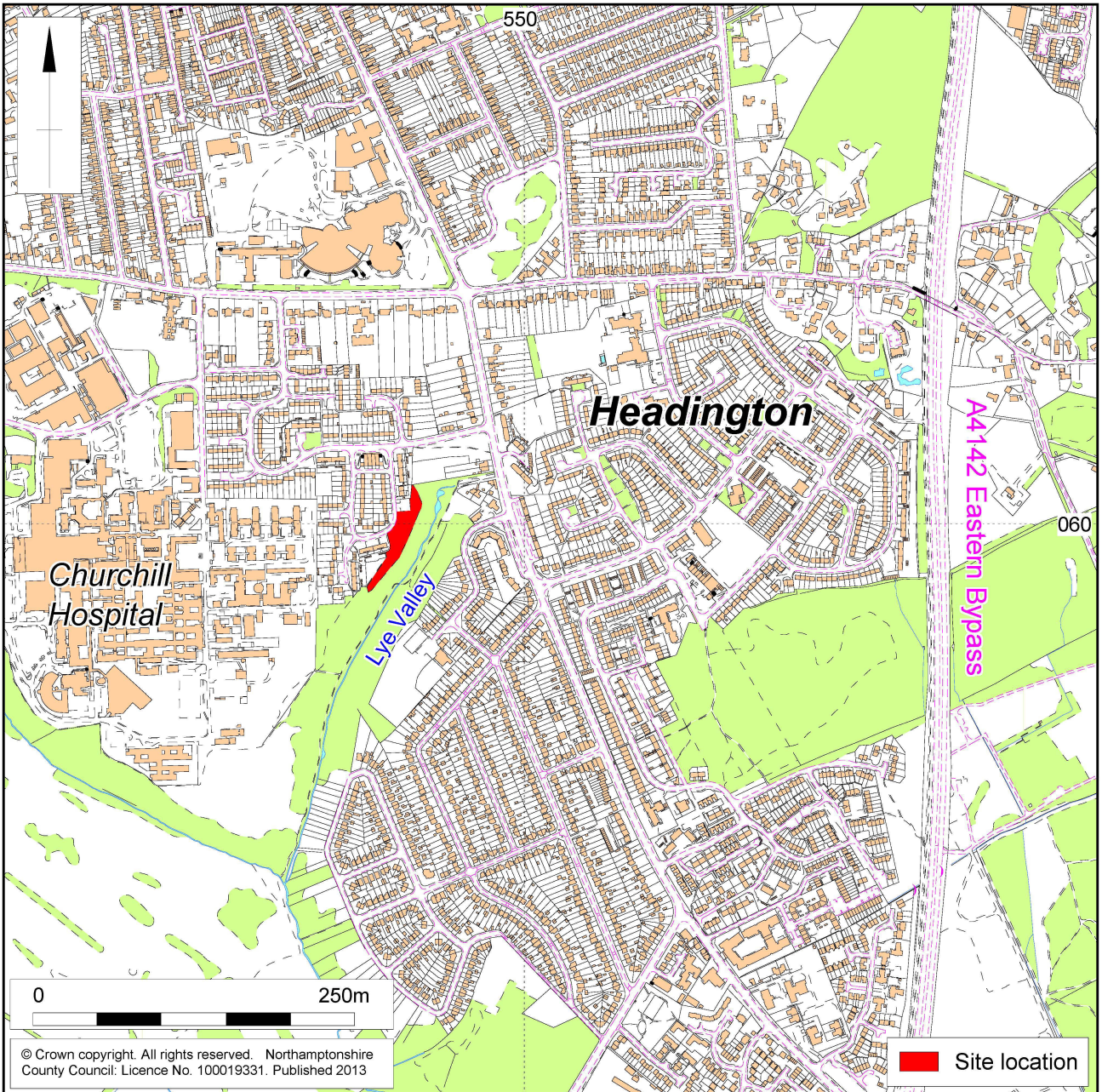
BGS 2012 *GeoIndex*, <http://www.bgs.ac.uk/geoindex/>

EH 2008 *Geophysical survey in archaeological field evaluation*, English Heritage

IfA 2011 *Standard and guidance for archaeological geophysical survey*, Institute for Archaeologists

NA 2013 *Land off Warren Crescent, Oxford, Oxfordshire; Method Statement for Archaeological Geophysical Survey*, Northamptonshire Archaeology

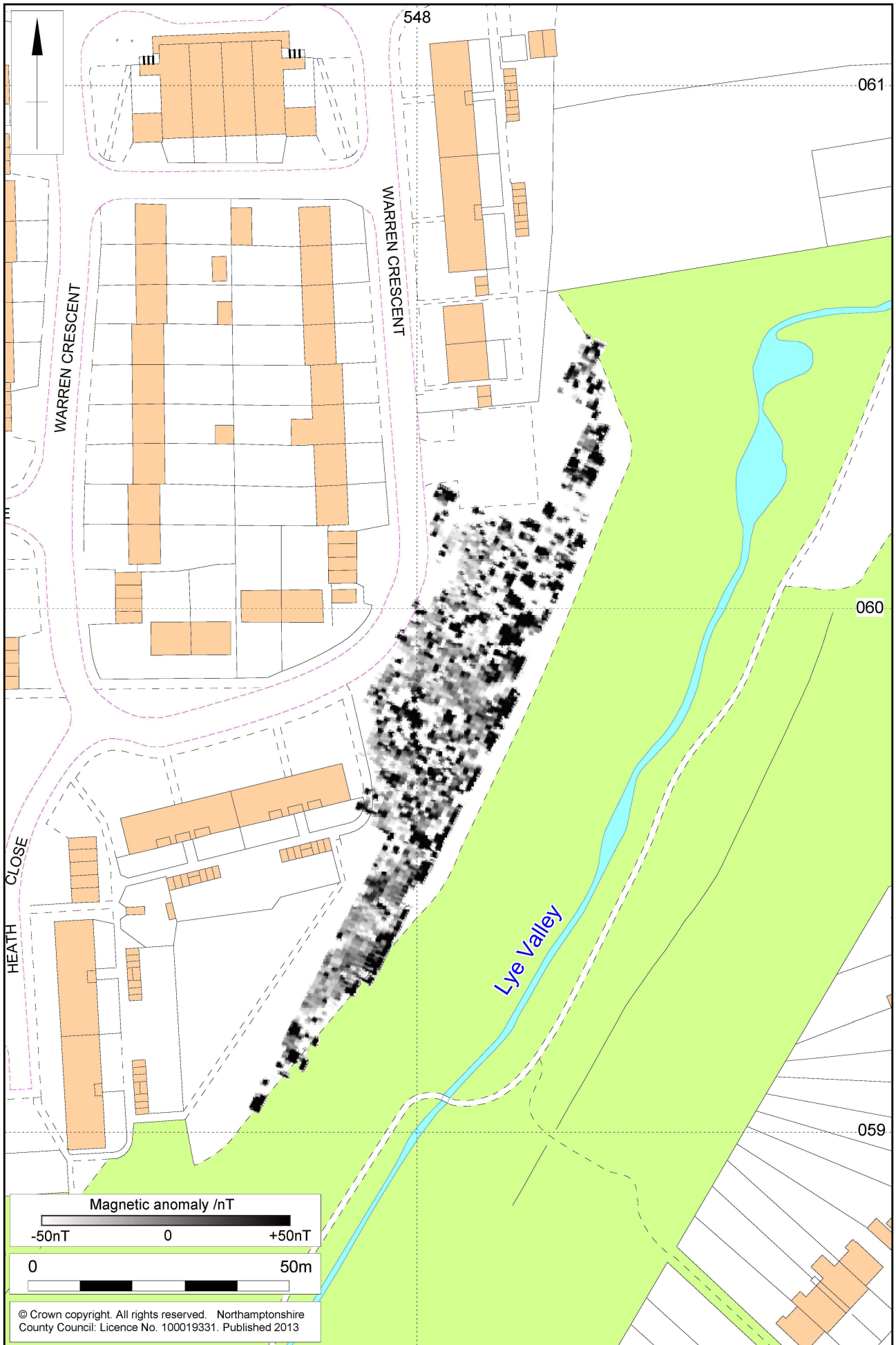
SSEW 1983 *Soil Survey of England and Wales*



Scale 1:10,000

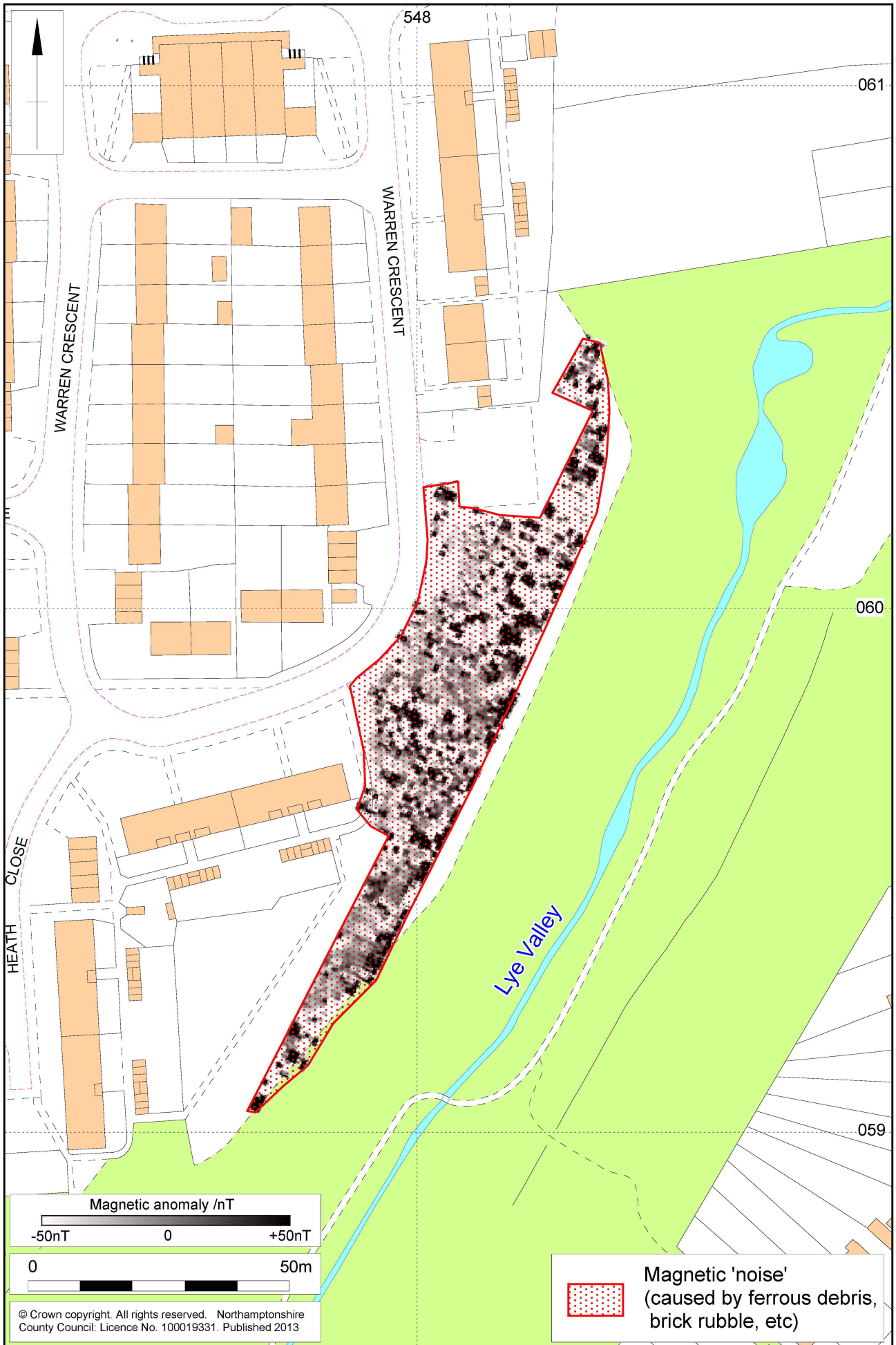
Site Location Fig 1





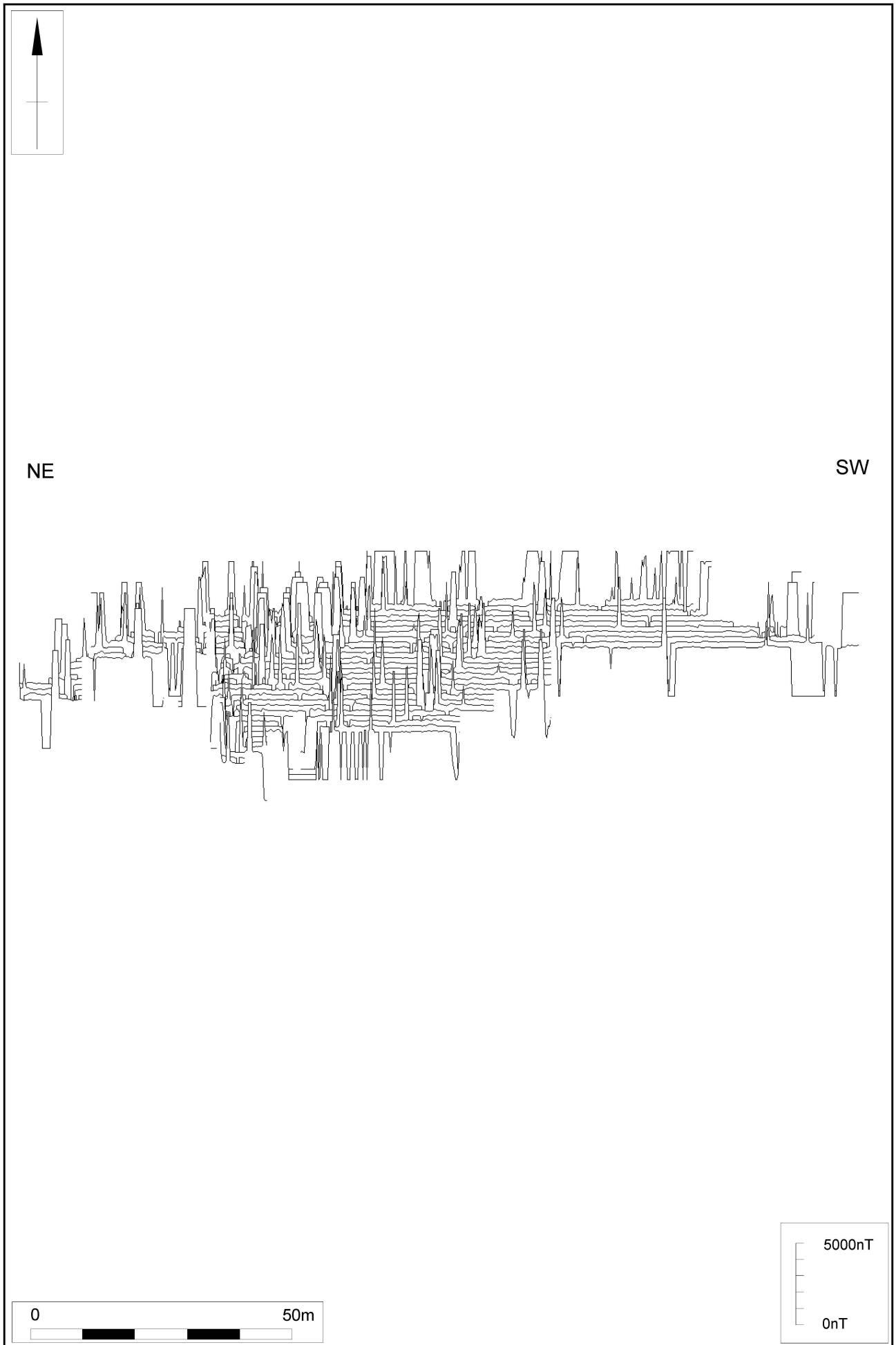
1:1000 (A4)

Magnetometer survey results Fig 2



1:1000 (A4)

Magnetometer survey interpretation Fig 3



Scale 1:1000 (A4)

X-Y trace plot of unprocessed magnetometer data Fig 4





**Northamptonshire County Council**

# Northamptonshire Archaeology

## **Northamptonshire Archaeology**

2 Bolton House  
Wootton Hall Park  
Northampton NN4 8BE

**t.** 01604 700493 **f.** 01604 702822

**e.** [sparry@northamptonshire.gov.uk](mailto:sparry@northamptonshire.gov.uk)

**w.** [www.northantsarchaeology.co.uk](http://www.northantsarchaeology.co.uk)



CONTRACTORS HEALTH & SAFETY ASSESSMENT SCHEME  
**Accredited Contractor**  
www.chas.gov.uk



**Northamptonshire  
County Council**