

**Land off Tofts Road, Barton upon Humber,  
North Lincolnshire**

**geophysical surveys**

*for*  
**Scott Wilson**

*on behalf of*  
**Redrow Homes (Yorkshire) Ltd**

**Report 1508**  
August 2006

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# Land off Tofts Road, Barton upon Humber, North Lincolnshire

## geophysical surveys

### *Report 1508*

August 2006

*Archaeological Services Durham University*

for

*Scott Wilson*

*The Design Innovation Centre, 46 The Calls, Leeds, LS2 7EY*

on behalf of

*Redrow Homes (Yorkshire) Ltd*

*Brunel Road, Wakefield 41, Wakefield, WF02 0XG*

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## **1. Summary**

### ***The project***

- 1.1 This report presents the results of geophysical surveys conducted in advance of a proposed development on land off Tofts Road, Barton upon Humber, North Lincolnshire. The works comprised a gradiometer survey of two areas totalling 2.88ha.
- 1.2 The works were commissioned by Scott Wilson and conducted by Archaeological Services in accordance with a specification provided by Scott Wilson.

### ***Results***

- 1.3 Anomalies which may reflect an alignment of pits have been detected along the northern edge of Area 1.
- 1.4 Clusters of anomalies which might reflect groups of pits have been detected in the southern part of Area 1 and the northwestern corner of Area 2.
- 1.5 Linear and curvilinear anomalies have been detected in Areas 1 and 2 which might reflect ditches or gullies.
- 1.6 Sinuous anomalies traversing Area 1 aligned east/west may reflect palaeochannels or be features associated with glaciation. It is possible that glacial erosion may also account for some of the other discrete positive magnetic anomalies detected.
- 1.7 Traces of ridge and furrow cultivation have been detected in Area 1 on a northwest/southeast alignment.

## **2. Project background**

### ***Location (Figure 1)***

- 2.1 The study area is located to the southwest of Barton upon Humber, on land adjacent to Tofts Road (NGR: 500240 422100). The site covers an area of approximately 7.5ha, of which 4.3ha is to be developed. It is bounded by the A15 embankment to the west, the Horkstow Road to the south, residential housing to the north and Tofts Road to the east.

### ***Objective***

- 2.2 The principal aim of the surveys was to assess the nature and extent of any sub-surface features of potential archaeological significance within the proposed development area, so that an informed decision may be made regarding the nature, and scope of, any further scheme of archaeological works that may be required in advance of development.

### ***Methods statement***

- 2.3 The surveys have been undertaken in accordance with a Specification provided by Scott Wilson and approved by the SMR Officer for North Lincolnshire Council.

### ***Dates***

- 2.4 Fieldwork was undertaken on the 17<sup>th</sup> and 18<sup>th</sup> of July 2006. This report was prepared between the 1<sup>st</sup> and 8<sup>th</sup> of August 2006.

### ***Personnel***

- 2.5 Fieldwork was conducted by Bryan Atkinson and Sam Roberts. This report was prepared by Sam Roberts, with illustrations by Janine Fisher. The Project Manager was Duncan Hale.

### ***Archive/OASIS***

- 2.6 The site code is **BHH06**, for **Barton upon Humber, Humberside, North Lincolnshire 2006**. The project archive is currently held by Archaeological Services Durham University and will be transferred to North Lincolnshire Museum in due course. Archaeological Services is registered with the **Online Access to the Index of archaeological investigationS** project (OASIS). The OASIS ID number for this project is **archaeol3-17154**.

## **3. Archaeological and historical background**

- 3.1 The earliest history of Barton is Ball's short Social History and Antiquities of Barton upon Humber written in 1856. This was followed by Robert Brown's detailed Notes on the Earlier History of Barton upon Humber published in 1906 and 1908 which concentrated on the medieval period (Scott Wilson 2006).
- 3.2 The results of a series of rescue excavations undertaken in Barton upon Humber in the 1960s and 1970s have been synthesised in G.F. Bryants' The

Early History of Barton upon Humber (1981, rev.1994). An early Saxon church and cemetery were excavated at the site of St Peter's Church during the 1980s and excavations at Castledyke South have revealed a richly furnished cemetery of Anglian traders and settlers (Scott Wilson 2006) indicating the region's importance during the early medieval period.

- 3.3 Cropmarks forming a rectilinear enclosure have been recorded in the northern part of the development area.

#### **4. Landuse, topography and geology**

- 4.1 At the time of survey the proposed development area comprised one arable field, currently fallow.
- 4.2 The site is located on the eastern side of the Lincolnshire Chalk Wolds. The landscape is characterised by the eastern slope of the Wolds, which is divided by southwest/northeast aligned shallow glacial dry valleys. The site slopes down from the southwest (40m OD) to the northeast (20m OD).
- 4.3 The underlying solid geology of the area is characterised by Lower Jurassic clays, followed by Middle Jurassic limestone and Upper Jurassic clays. Cretaceous chalk beds were deposited on top of the Upper Jurassic clays and sands in the Wolds.

#### **5. Geophysical survey**

##### ***Standards***

- 5.1 The surveys and reporting were conducted in accordance with English Heritage Research and Professional Services Guideline No.1, *Geophysical survey in archaeological field evaluation* (David 1995); the Institute of Field Archaeologists Technical Paper No.6, *The use of geophysical techniques in archaeological evaluations* (Gaffney, Gater & Ovenden 2002); and the Archaeology Data Service *Geophysical Data in Archaeology: A Guide to Good Practice* (Schmidt 2001).

##### ***Technique selection***

- 5.2 Geophysical surveying enables the relatively rapid and non-invasive identification of potential archaeological features within landscapes and can involve a variety of complementary techniques such as magnetometry, electrical resistivity, ground-penetrating radar and electromagnetic survey. Some techniques are more suitable than others in particular situations, depending on a variety of site-specific factors including the nature of likely targets; depth of likely targets; ground conditions; proximity of buildings, fences or services and the local geology and drift.
- 5.3 In this instance, based on existing cropmark evidence, it was considered likely that cut features, such as ditches and pits, would be present on the site, and that

other types of feature such as trackways, wall foundations and fired structures (for example kilns and hearths) might also be present.

- 5.4 Given the anticipated shallowness of targets and the non-igneous geological environment of the study area a geomagnetic technique, fluxgate gradiometry, was considered appropriate for detecting each of the types of feature mentioned above. This technique involves the use of hand-held magnetometers to detect and record minute anomalies in the vertical component of the Earth's magnetic field caused by variations in soil magnetic susceptibility or permanent magnetisation; such anomalies can reflect archaeological features.

#### ***Field methods***

- 5.5 Two survey areas covering totalling 2.8ha were positioned using Ordnance Survey coordinates provided by Scott Wilson by means of a Trimble Pathfinder Pro XRS global positioning system (GPS) with real-time RINEX calibration. A 30m grid was then established across each survey area.
- 5.6 Measurements of vertical geomagnetic field gradient were determined using a Bartington Grad601-2 fluxgate gradiometer with automatic datalogging facilities. A zig-zag traverse scheme was employed and data were logged in 30m grid units. The instrument sensitivity was set to 0.1nT, the sample interval to 0.25m and the traverse interval to 1.0m, thus providing 3600 sample measurements per 30m grid unit.
- 5.7 Data were downloaded on-site into laptop computers for initial processing and storage and subsequently transferred to a desktop computer for processing, interpretation and archiving.

#### ***Data processing***

- 5.8 Geoplot v.3 software was used to process the geophysical data and to produce both continuous tone greyscale images and trace plots of the raw data. The greyscale images and interpretations are presented in Figures 2-4; the trace plots are provided in Appendix I. In the greyscale images, positive magnetic anomalies are displayed as dark grey and negative magnetic anomalies as light grey. A palette bar relates the greyscale intensities to anomaly values in nanoTesla.
- 5.9 The following basic processing functions have been applied to each dataset:

*Clip* – clips, or limits data to specified maximum or minimum values; to eliminate large noise spikes; also generally makes statistical calculations more realistic.

*Zero mean traverse* – sets the background mean of each traverse within a grid to zero; for removing striping effects in the traverse direction and removing grid edge discontinuities.

*Destagger* – corrects for displacement of anomalies caused by alternate zig-zag traverses.

*Despike* – locates and suppresses random iron spikes in gradiometer data.

*Low pass filter* – is used for enhancing larger weak features.

*Interpolate* – increases the number of data points in a survey to match sample and traverse intervals. In this instance the gradiometer data have been interpolated to 0.25x 0.25m intervals.

***Interpretation: anomaly types***

- 5.10 A colour-coded geophysical interpretation plan of the survey areas is provided in Figure 3. Two types of geomagnetic anomaly have been distinguished in the data:

*positive magnetic* regions of anomalously high or positive magnetic field gradient, which may be associated with high magnetic susceptibility soil-filled structures such as pits and ditches.

*dipolar magnetic* paired positive-negative magnetic anomalies, which typically reflect ferrous or fired materials (including fences and service pipes) and/or fired structures such as kilns or hearths.

***Interpretation: features***

- 5.11 A colour-coded archaeological interpretation plan of the survey areas is provided in Figure 4.
- 5.12 A magnetic texture composed of fine striations aligned northeast/southwest has been detected across both survey areas. This textural effect most likely arises from modern ploughing. For the sake of clarity, anomalies associated with this texture are not shown on the geophysical interpretation plan, however its presence and alignment is indicated on the archaeological interpretation plan.
- 5.13 Small, discrete dipolar anomalies detected across both survey areas almost certainly reflect items of near-surface ferrous and/or fired debris, such as horseshoes and brick fragments. A large intense dipolar anomaly on the west side of Area 1 is likely to reflect a nearby drain.

**Area 1**

- 5.14 A linear arrangement of small, discrete positive magnetic anomalies along the northern edge of the survey area may correspond to an alignment of pits, oriented east/west.
- 5.15 A group of discrete positive magnetic anomalies detected in the southern part of Area 1 may reflect a group of pits, some of which may form a curvilinear arrangement. To the north of these linear and curvilinear positive magnetic anomalies possibly reflect soil-filled features such as ditches or gullies.

- 5.16 A discrete, positive magnetic anomaly on the west side of the survey area may reflect a pit or similar feature.
- 5.17 Sinuous, weak positive magnetic anomalies traversing the survey area from east to west may reflect the remains of a palaeochannel, or features associated with glacial scouring/outwash.
- 5.18 Weak, parallel, linear positive magnetic anomalies aligned northwest/southeast almost certainly reflect traces of ridge and furrow cultivation

#### **Area 2**

- 5.19 A cluster of discrete positive magnetic anomalies in the northwest corner of the survey area is likely to reflect a group of pits.
- 5.20 A weak linear positive magnetic anomaly aligned roughly north/south possibly reflects a ditch or gully.

### **6. Conclusions**

- 6.1 Geophysical surveys have been carried out on land at Tofts Road, Barton upon Humber, North Lincolnshire.
- 6.2 Anomalies which may reflect an alignment of pits have been detected along the northern edge of Area 1.
- 6.3 Clusters of anomalies which might reflect groups of pits have been detected in the southern part of Area 1 and the northwestern corner of Area 2.
- 6.4 Linear and curvilinear anomalies have been detected in Areas 1 and 2 which might reflect ditches or gullies.
- 6.5 Sinuous anomalies traversing Area 1 aligned east/west may reflect palaeochannels or be features associated with glaciation. It is possible that glacial erosion may also account for some of the other discrete positive magnetic anomalies detected.
- 6.6 Traces of ridge and furrow cultivation have been detected in Area 1 on a northwest/southeast alignment.

### **7. Sources**

David, A, 1995 *Geophysical survey in archaeological field evaluation*, Research and Professional Services Guideline 1, English Heritage

Gaffney, C, Gater, J & Ovenden, S, 2002 *The use of geophysical techniques in archaeological evaluations*, Technical Paper 6, Institute of Field Archaeologists



Schmidt, A, 2001 *Geophysical Data in Archaeology: A Guide to Good Practice*, Archaeology Data Service, Arts and Humanities Data Service

Scott Wilson, 2006 *Land off Tofts Road, Barton upon Humber: Specification for Magnetometer Survey*, unpublished report prepared for Redrow Homes (Yorkshire) Ltd, Scott Wilson



Archaeological Services  
University of Durham

Land off Tofts Road, Barton upon Humber,  
North Lincolnshire  
Geophysical surveys

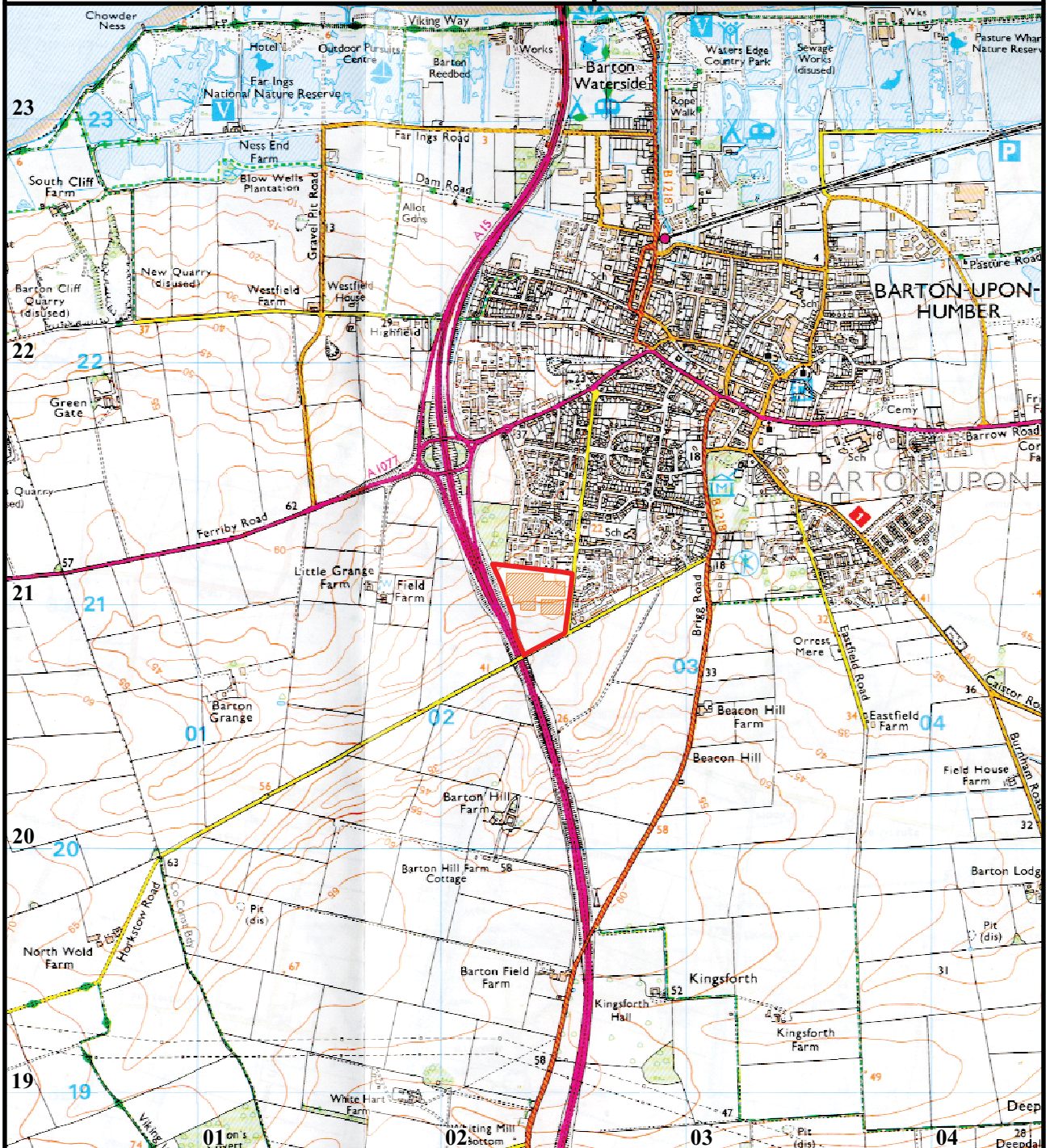
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Figure 1

Location map

on behalf of  
**Scott Wilson**

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proposed  
development area



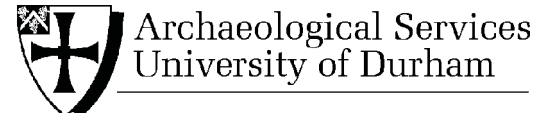
survey area



scale 1:25 000 - for A4 plot



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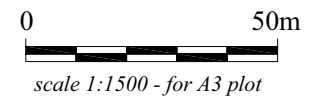
Land off Tofts Road, Barton upon Humber, North Lincolnshire

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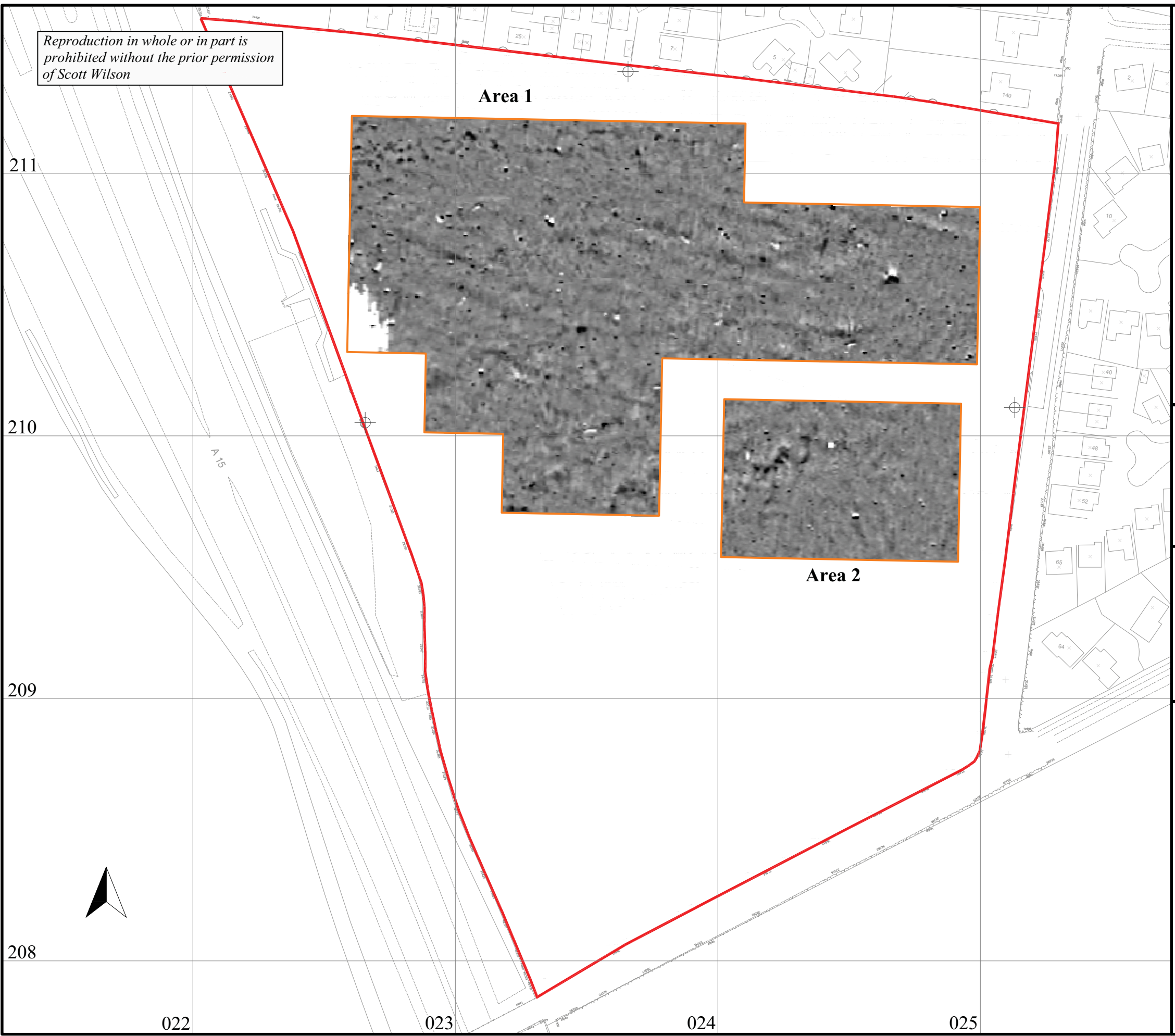
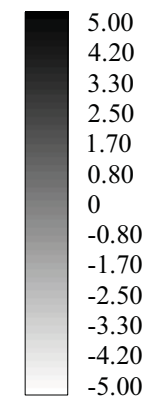
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Figure 2  
Geophysical survey results

on behalf of  
**Scott Wilson**



- outline of survey area
- reference markers





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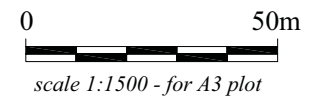
Land off Tofts Road, Barton upon Humber, North Lincolnshire






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Figure 3  
Geophysical interpretation

on behalf of  
**Scott Wilson**



-  outline of survey area
-  positive magnetic anomalies
-  negative magnetic anomalies
-  dipolar magnetic anomalies
-  reference markers



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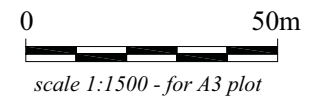
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



Geophysical surveys

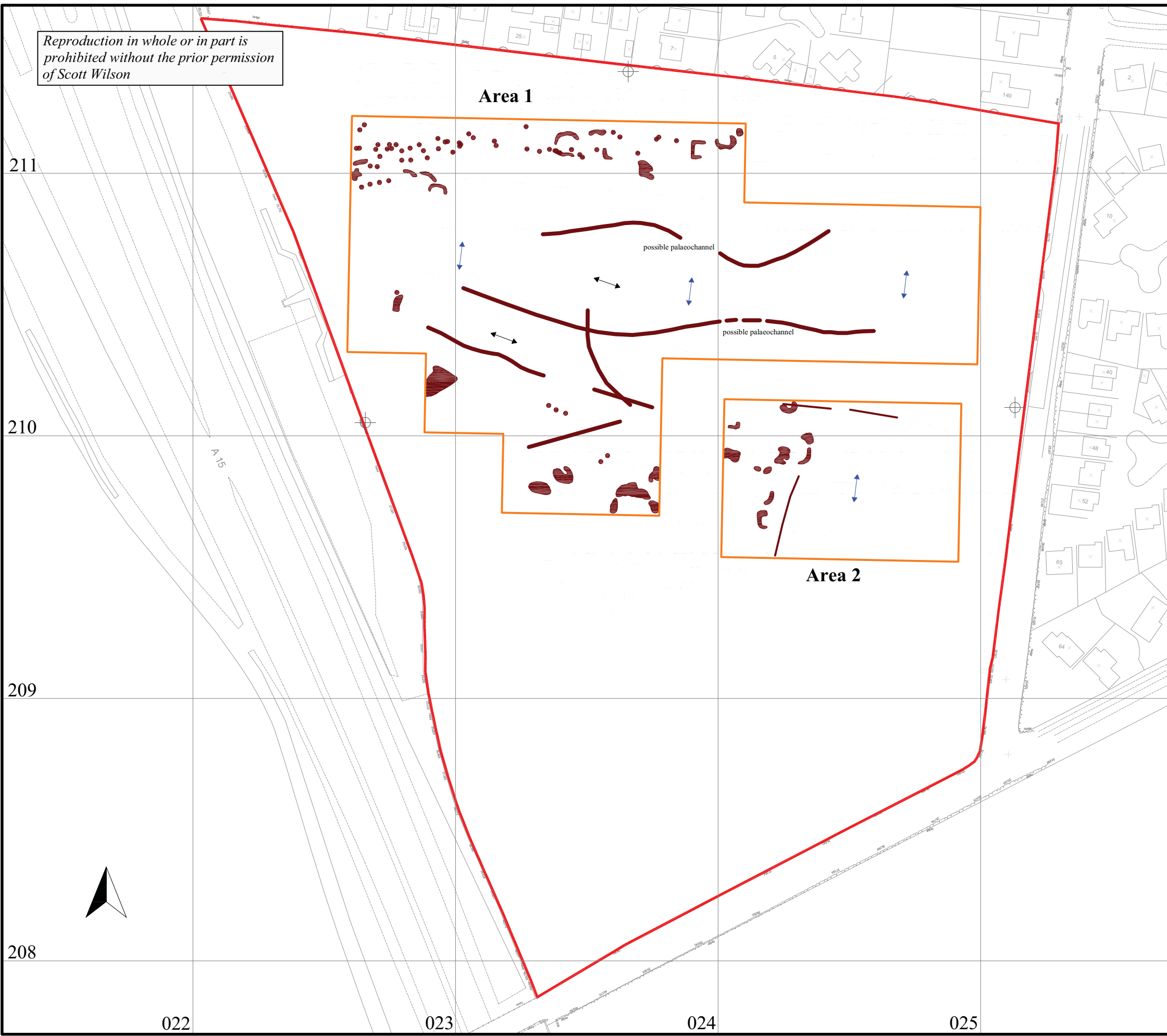
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Figure 4  
*Archaeological interpretation*

on behalf of  
**Scott Wilson**



-  outline of survey area
-  reference markers
-  soil-filled features
-  recent plough direction
-  orientation of ridge and furrow



## Appendix 1: Trace plots of geophysical data

Land at Tofts Road, Barton upon Humber

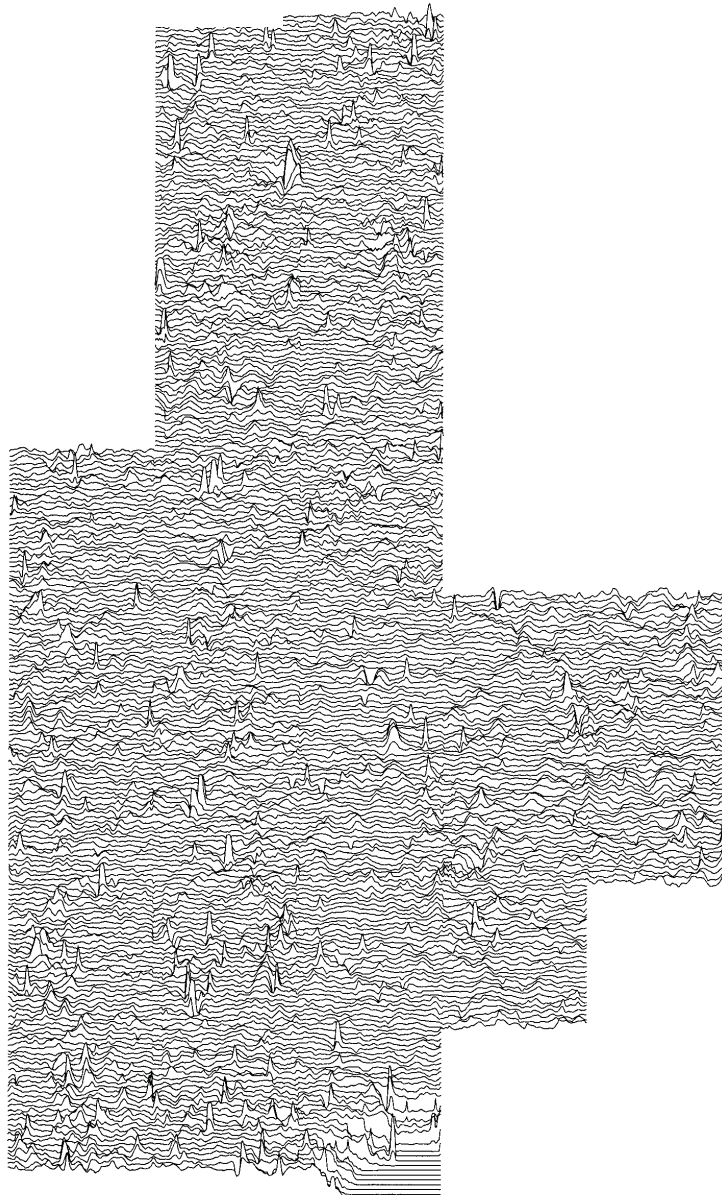
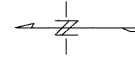
Geomagnetic data

Area 1

20.00nT/cm



50m



Land at Tofts Road, Barton upon Humber

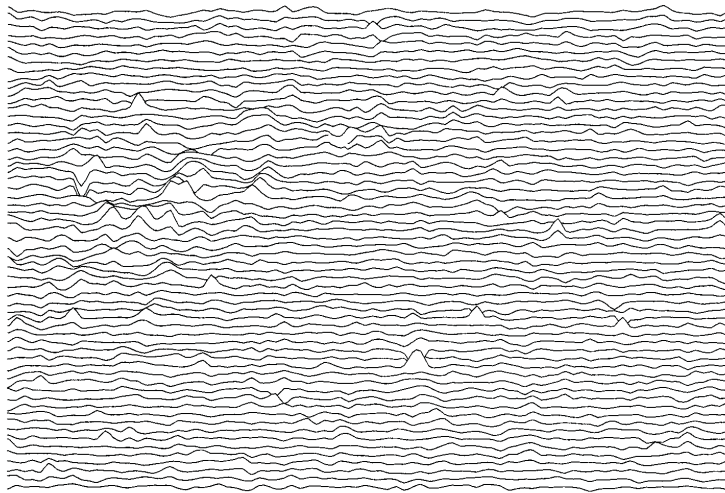
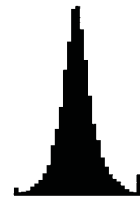
Geomagnetic data

**Area 2**

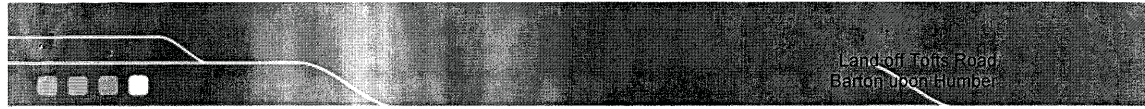
20.00nT/cm



30m



## Appendix 2: Project specification



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### FIGURES

Figure 1 Site Location

Figure 2 Survey Areas

APPENDIX 1 Archaeological Standards and Guidelines







## **1. INTRODUCTION**

Scott Wilson was commissioned by Redrow Homes (Yorkshire) Ltd to undertake a magnetometer survey covered by the proposed development area. This survey is to be undertaken in advance of a proposed development.

This document provides a specification for a magnetometer survey of the development area. The survey will be carried out in those areas that will be affected by construction works.

## **2. SITE DESCRIPTION**

The proposed development site is situated to the southwest of the town of Barton upon Humber (Fig.1) and lies between the A15 and Horkstow Road (NGR 500240, 422100).

The site covers an area of approximately 7.5 hectares of which c.4.3 hectares is to be developed. Currently the land is a fallow arable field surrounded by modern development to the north and east. It is bounded by the A15 embankment to the west, the Horkstow Road to the south, and modern housing development at Appleyard Close to the north and Tofts Road to the east. The site slopes down from the southwest (c.40m AOD) to the northeast (c.20m AOD).

## **3. GEOLOGY**

The solid geology of northeast Lincolnshire is characterised by Lower Jurassic clays, followed by Middle Jurassic limestones and Upper Jurassic clays. Cretaceous chalk beds were deposited on top of the Upper Jurassic clays and sands in the Wolds.

The Anglian glaciation scoured valleys and deposited boulder clay till in parts of the Wolds valleys. The site is located on the eastern side of the Lincolnshire Chalk Wolds, east of Saxby Wold. The Dimlington Stadial glacial Skipsea Till boulder clay of the Middle Marsh and the Flandrian marine silt Outmarsh lie to the east, and the estuarine alluvial clays of the Humber Marsh which form the coastal plain are located to the north of Barton. Soils comprise brown earths of the Lincolnshire Wolds, with pockets of surface-water gley till soils to the north and east, and ground-water gley alluvial soils to the north (SSEW 1983).

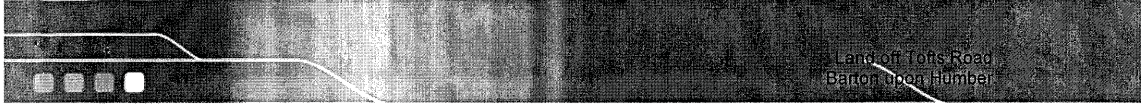
The landscape is characterised by the eastern slope of the Wolds, which is divided by southwest/northeast aligned shallow glacial dry valleys. The valley floors contain glacial sands and gravels. Artesian springs occur at the junction of the chalk and the clay to the north, at Beck near St Peter's church and at Blow Wells to the northwest. Two former streams, now culverted, ran along Bowmandale and Whitecross Street (Bryant 1994, 3).

## **4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

The earliest history of Barton is Ball's short Social History and Antiquities of Barton upon Humber (1856). Following archaeological investigations by the Hull Scientific and Field Naturalists' Club, the next major work was Robert Brown's detailed Notes on the Earlier History of Barton upon Humber (1906 and 1908), which concentrates on the medieval period.

Long-running debates in the historiography of Barton upon Humber include speculation about the site of the Battle of Brunaburh (AD937) and the location





of St Chad's early monastery at Baeruwe, possibly situated at either Barrow or Barton upon Humber.

A series of rescue excavations were undertaken in Barton upon Humber in the 1960s and 1970s, directed by Geoffrey Bryant, of Barton Workers' Educational Association, assisted by school pupils, Manpower Services Commission staff and volunteers. The results of these excavations are summarised in the East Midlands Archaeological Bulletin and Lincolnshire History and Archaeology and synthesised in Bryant's *The Early History of Barton upon Humber* (1981; revised 1994). St Peter's Church was excavated in the 1980s, revealing the early Saxon church and cemetery (Rodwell & Rodwell 1982). Excavations at Castledyke South have revealed the richly furnished cemetery of Anglian traders and settlers (Meaney 1964, 151; Drinkall & Foreman 1998).

Following the creation of Humberside after local government reorganisation in 1974, two major synthetic volumes on the archaeology of Humberside brought together archaeologists and historians working in north Lincolnshire and southeast Yorkshire. *Lincolnshire History and Archaeology* (Loughlin & Miller 1979), was effectively a resource assessment and gazetteer of sites in Humberside. This has been built on by the publication of papers on the Humber region in *Humber Perspectives: a region through the ages* (Ellis & Crowther (eds) 1990). Ben Whitwell has produced synthetic publications on late Iron Age (1992a), Roman (1992b) and early Anglian (1988) north Lincolnshire and Humberside.

## 5. PROJECT OBJECTIVES

The objectives of the magnetometer survey are:

- to establish the presence or absence of any archaeological anomalies within the areas of proposed development;
- to define the extent of any such anomalies;
- to characterise, if possible, any such anomalies;
- to provide supporting information in order to detail the future archaeological strategy for the development, where appropriate and necessary.

## 6. SURVEY AREAS

The magnetometer survey will cover a 70% sample of the development area. To enable the accurate positioning of the survey areas the co-ordinates for each corner of the grids have been detailed on figure 2.

If there are any areas that cannot be surveyed the sub-contractor will inform Scott Wilson and details of these provided in the report.

## 7. METHODOLOGY

The specification defines the methodologies to be used and adhered to. It has been produced in consultation with Alison Williams (SMR Officer, North Lincolnshire Council). All work shall be carried out in accordance with the Standards and guidance for Archaeological Field Evaluation produced by the Institute of Field Archaeologist (1999), the IFA Code of Conduct, the guidelines of geophysical survey in archaeological field evaluation produced by English Heritage (1995) and other current and relevant best practice and standards and guidance (Appendix 1).





A detailed magnetometer survey will be carried out over the designated survey areas using either a Geoscan FM 36 Fluxgate Gradiometer or a Bartington GRAD 601 Fluxgate Gradiometer (or similar electronic instrument). Readings should be taken at 0.25m intervals on zig-zag traverses 1m apart within 30m by 30m grids.

The data should be downloaded at regular intervals on-site into a laptop computer for initial processing and storage. This will ultimately be transferred to a desktop computer for further processing, interpretation and archiving. Geoplot v.3 software (or comparable) will be used to interpolate the data to form an array of regularly spaced values at 0.25m x 0.25m intervals. Continuous tone greyscale images of raw data and an x/y trace plot will also be produced. Palette bars relating the greyscale intensities to anomaly values in ohms will be included with the images.

The raw and processed data will be presented in the report. The processed drawings should be accurately located and presented in relation to the Ordnance Survey base plan for the route and the survey markers should be accurately plotted to aid in the laying out of subsequent evaluation or excavation areas, if deemed necessary. Interpretation plots will be included in the report.

The survey will be undertaken by an experienced operator to provide consistent results with regard to pattern recognition and to provide initial screening of noise resulting from recent ferrous disturbance and local magnetic pollution.

During the survey a record should be made of surface conditions and sources of modern geophysical interference that might have a bearing on subsequent interpretation of field data.

The survey grid/transects must be established by electronic means (using an EDM Total station or similar instrument). This must be accurately tied in with the National Grid. This should be internally accurate to  $\pm 10$  cm, and the grid locatable on the 1: 2500 Ordnance Survey map.

The sub-contractor will place survey markers at the site such that the location of the survey can be easily relocated.

## 8. REPORTING

Verbal progress reports will be provided to Scott Wilson on request and upon completion of the archaeological works. An interim plot and statement of results will be submitted to Scott Wilson, 1 week after the completion of fieldwork. This interim report will include a grey scale plot and a brief summary of the results.

An assessment report will be submitted within 3 weeks of the completion of fieldwork. The report will include the following and will follow those guidelines set by English Heritage (1995, 5):

- a non-technical summary;
- site location;
- archaeological and historical background;
- methodology;
- aims and objectives;







- results (to include full description, assessment of condition, quality and significance of results identified);
- general and detailed plans showing the location of the surveyed areas accurately positioned on an Ordnance Survey map base (to a known scale);
- colour/grey scale plots to aid interpretation. The plots will be contoured (if appropriate) to allow trends to be shown superimposed over data without obscuring it;
- an interpretative plot;
- statement of potential with recommendations for future survey;
- conclusion.

One copy of the complete report will be submitted to Scott Wilson as a draft. In finalising the report the comments of Scott Wilson will be taken into account.

Six bound hard copies, one unbound master-copy and a digital version of the report and illustrations will be produced within one week of the receipt of comments on the draft report. The digital report shall comprise a CD containing a complete version of the report in PDF format and separate digital text (in Microsoft Word format) and CAD mapping files (in ESRI GIS or AutoCAD format) and any other illustrations or plates.

The raw and processed data will be presented in the report. The processed drawings will be accurately located and presented in relation to the Ordnance Survey base plan for the area and the survey markers should be accurately plotted to aid in the laying out of subsequent surveys.

#### **9. ARCHIVE DEPOSITION**

Scott Wilson will, prior to the start of fieldwork, liaise with North Lincolnshire Museum to obtain agreement in principle of the acceptance of the documentary archive for long term storage and curation. The archive will be produced to the standards outlined by English Heritage (1991).

#### **10. MONITORING**

The contractor will be subject to regular monitoring by Scott Wilson who will be given full access to site records or any other information.

Scott Wilson will liaise with Alison Williams (SMR Officer, North Lincolnshire Council) to inform her of the commencement of site works and to offer her the opportunity to visit and monitor the work in progress.

#### **11. CONFIDENTIALITY AND PUBLICITY**

All communication regarding this project is to be directed through Scott Wilson. The sub-contractor will refer all inquiries to Scott Wilson without making any unauthorised statements or comments.

The archaeological sub-contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of Scott Wilson.





## **12. COPYRIGHT**

The archaeological sub-contractor will assign copyright in all reports and documentation/images produced as part of this project to Scott Wilson. The sub-contractor retains the right to be identified as the author/originator of the material. This applies to all aspects of the project.

The archaeological sub-contractor may apply in writing to use/disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.

The results of the survey will be submitted to Alison Williams by Scott Wilson and will ultimately be made available for public access.

## **13. RESOURCES AND TIMETABLE**

All archaeological personnel involved in the project should be suitably qualified and experienced professionals. The sub-contractor will provide Scott Wilson with staff details including CVs of the Project Manager, Site Supervisor and Site Assistants.

The fieldwork is to be implemented during the week commencing the 26<sup>th</sup> June 2006 and fieldwork will be completed in 5 days. The date for submission of the report will be 24<sup>th</sup> July 2006. Scott Wilson should be informed at the earliest opportunity if this is not achievable.

## **14. INSURANCES AND HEALTH AND SAFETY**

The archaeological sub-contractor will provide Scott Wilson with details of public and professional indemnity insurance prior to fieldwork commencing.

The sub-contractor will have their own Health and Safety policies compiled using national guidelines and which conform to all relevant Health and Safety legislation. A copy of the Health and Safety policy will be submitted to Scott Wilson in advance of fieldwork.

The sub-contractor will undertake a risk assessment detailing project specific Health and Safety requirements. The risk assessment shall be submitted to Scott Wilson in advance of commencement of site work. If amendments are made to the assessment during the works, Scott Wilson must be provided with the amended version at the earliest opportunity. Health and Safety will take priority over archaeological issues.

Scott Wilson will provide information regarding the approximate location of known services within the area of investigation. The sub-contractor will, however, be responsible for identifying any buried or overhead services and taking the necessary precautions to avoid damage to such services, prior to investigation.

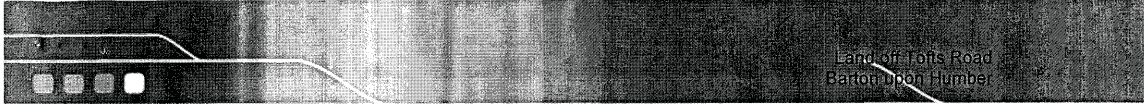
## **15. ACCESS ARRANGMENTS AND SITE INFORMATION**

Prior to the commencement of the survey Scott Wilson will liaise with Redrow to arrange access.

## **16. GENERAL PROVISIONS**

The archaeological sub-contractor will undertake the works to the specification issued by Scott Wilson and in any subsequent written variations. No variation from, or changes to, the specification will occur except by prior agreement with Scott Wilson who will consult with Alison Williams.





All communications on archaeological matters will be directed through Scott Wilson.

#### REFERENCES

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**Appendix 1**  
**Archaeological Standards and Guidelines**







#### **ARCHAEOLOGICAL STANDARDS AND GUIDLINES**

Darvill, T & Atkins, M 1991 Regulating Archaeological Works by Contract (IFA Technical Paper No 8)

English Heritage 1991 The Management of Archaeological Projects Second Edition (MAP2)

English Heritage 1995 Geophysical Survey in Archaeological Field Evaluation (EH Research and Professional Services Guidelines No 1)

Gaffney, C & Gater, J with Ovenden, S 1991 The Use of Geophysical Techniques in Archaeological Evaluations (IFA Technical Paper No 9)

Garratt-Frost, S 1992 The Law and Burial Archaeology (IFA Technical Paper No 11)

Handley, M 1999 Microfilming Archaeological Archives (IFA Paper No 2)

Institute of Field Archaeologists 1997 Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology (and subsequent revisions)

Institute of Field Archaeologists 1999 Standard and Guidance for Archaeological Field Evaluation (and subsequent revisions)

Society of Museum Archaeologists 1995 Towards an Accessible Archaeological Archive - the Transference of Archaeological Archives to Museums: Guidelines for use in England, Northern Ireland, Scotland and Wales

