

NYCC REF	
SNY	11059
ENY	3066
CNY	4694/5638
Parish	3123
Rec'd	06/3/06



ARCHAEOLOGICAL
SERVICES
WYAS

**Land at Robin Hood Caravan Park
Green Dyke Lane
Slingsby
North Yorkshire**

Geophysical Survey

February 2006

Report No. 1495

N. Y. C. C. ENVIRONMENTAL SERVICES	
06 MAR 2006	
Pass to	RS
Ackd.
Ansd.

CLIENT

MAP Archaeological Consultancy Ltd

E 3066

C 4694

05/00667/FUL
& C5638

06/00573/FUL
S11059

Land at Robin Hood Caravan Park

Green Dyke Lane

Slingsby

North Yorkshire

Geophysical Survey

Contents

1. Introduction and Archaeological Background
2. Objectives and Methodology
3. Results and Discussion
4. Conclusions

Bibliography

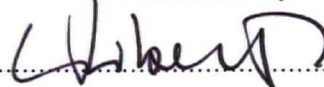
Acknowledgements

Appendices

Summary

A geophysical (magnetometer) survey covering 1.9 hectares was carried out at Green Dyke Lane, Slingsby immediately adjacent to scheduled site comprising an Iron Age square barrow cemetery and trackway. Although anomalies have been identified that are thought to mark the continuation of the trackway outside the scheduled area no other coherent magnetic responses have been identified to suggest the presence of further square barrows. Numerous ferrous responses and areas of enhanced magnetic background have been noted, any of which could be indicative of archaeological activity. However, it is considered on balance that these anomalies are equally likely to be due to modern activity or the variability of the soils and drift geology.

Authorised for distribution by:



ISOQAR ISO 9001:2000

Cert. No. 125/93

© ASWYAS 2006

Archaeological Services WYAS

PO Box 30, Nepshaw Lane South, Morley, Leeds LS27 0UG

1. Introduction and Archaeological Background

- 1.1 Archaeological Services WYAS was commissioned by Ms Paula Ware of MAP Archaeological Consultancy Ltd on behalf of their clients Crows Nest Farm Ltd to carry out a geophysical (magnetometer) survey on land to the south of the existing caravan park and camping area (see Fig. 1) at Green Dyke Lane, Slingsby. The planning application to Ryedale District Council (05/00667/FUL) seeks to permit a change in the land use to allow the current pasture field to be used by touring caravans. This would involve the creation of a series of concrete pads and the provision of various services. The site is bounded to the south by the B1257, the existing caravan park to the north and fields to the east and west. It is centred at SE 7001 7470 and covers an area of approximately 1.9 hectares.
- 1.2 The survey area comprises two separate fields. Field 1 is directly south of the caravan park and at the time of survey an adventure play area, picnic tables and a refuse collection point were situated within the field. Field 2 lies to the south of Field 1 and is separated from it by a line of conifers. A small plantation of trees is located 50m south of the conifers. Numerous bins were situated at the edge of the field but did not hinder the survey. Although the field was empty at the time of survey it is apparently used as an overspill area when the main camping area is full. The survey was carried out on February 2nd 2006. No problems were encountered during the fieldwork.
- 1.3 Topographically the site slopes gently from north (35m Above Ordnance Datum) to south (40m AOD). Drift deposits of sand and gravel covers the northern part of the site with solid oolitic limestone across the southern third. The boundary between these two geological zones has been marked approximately on Figure 2. The overlying soils are classified in the Badsey 2 soil association. These soils are characterised as well drained, calcareous, fine loams over limestone gravel.
- 1.4 The site is situated within a landscape of considerable archaeological importance not least as the field immediately abutting the site to the east has been designated a Scheduled Ancient Monument (Monument No. NY1200). The scheduled area (see Figure 2 and Appendix 4) encompasses an area containing cropmarks interpreted as Iron Age square barrow burials aligned adjacent to, and within, a double-ditched trackway aligned broadly from north-north-east to south-south-west through the fields to the north of the B1257. Air photographs show linear cropmarks, interpreted as the trackway, continuing across the area under evaluation although no other cropmarks to suggest additional square barrows or other features are apparent. The approximate location of the trackway has been plotted on Figure 2. Although no square barrows are visible as cropmarks within the application site, there is nevertheless potential for additional belowground archaeological remains and burials to be present within the site. Consequently North Yorkshire County Council, Heritage Unit advised that a programme of geophysical survey be undertaken to assess the impact of the development proposals.

2. Objectives and Methodology

- 2.1 The objectives of the geophysical survey were to determine the location and extent of any archaeological features within the proposal area, and where possible, to characterise any archaeology thus located. In view of the type of features likely to be encountered it was determined that a magnetometer survey was most likely to achieve these objectives. Due to the relatively small area of the site (1.9 hectares) it was proposed that detailed magnetometer survey be undertaken across the whole of the proposed development area.
- 2.2 Detailed survey employs the use of a sample trigger to automatically take readings at predetermined points, typically at 0.25m intervals, on traverses 1m apart. These readings are stored in the memory of the instrument and are later downloaded to computer for processing and interpretation. Further details are given in Appendix 1. Detailed survey allows the visualisation of weaker anomalies that may not be identifiable by cruder evaluation techniques such as magnetic scanning or magnetic susceptibility survey.
- 2.3 During this evaluation a team of two geophysicists used a Bartington Grad601 magnetic gradiometer, taking readings on the 0.1nT range at 0.25m intervals on zig-zag traverses 1m apart within 20m by 20m square grids. The instrument was checked for electronic and mechanical drift at a common point and calibrated as necessary.
- 2.4 The survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David 1995) and by the IFA (Gaffney, Gater and Ovenden 2002). All figures reproduced from Ordnance Survey mapping are done so with the permission of the controller of Her Majesty's Stationery Office. © Crown copyright.
- 2.5 A general site location plan, incorporating the 1:50000 Ordnance Survey mapping, is shown in Figure 1. Figure 2 shows the processed magnetometer data superimposed onto a digital map base at a scale of 1:2000. The processed (greyscale) and unprocessed (XY trace plot) data, together with accompanying interpretation diagrams, are presented in Figures 3 to 8 inclusive at a scale of 1:500.
- 2.6 Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the site archive. Appendix 4 is a plan showing the scheduled area and plotted cropmarks (not to scale).

The figures in this report have been produced following analysis of the data in 'raw' and processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

3. Results and Discussion

- 3.1 Isolated dipolar anomalies ('iron spikes' - see Appendix 1) have been identified throughout the site. These 'iron spike' anomalies are caused by ferrous objects or other magnetic material on the ground surface or contained within the upper soil horizons. In most instances such anomalies are caused by modern cultural debris that has been introduced into the topsoil, often as a consequence of manuring over a long period of time and consequently they are not thought to be of any archaeological significance. In this case, although there is some clustering, the majority of the anomalies appear to be around the periphery of the two fields and adjacent to a recently planted tree screen. Some responses may also be caused by lost tent pegs. Nevertheless, given the proximity of the barrow cemetery and the potential for iron grave goods, in this case the archaeological potential of the anomalies cannot be so readily dismissed.
- 3.2 Several linear trends in the data are also evident. In the northern part of the site the parallel trends aligned from north-north-east to south-south-west are interpreted as having an underlying agricultural origin being due to either ridge and furrow ploughing or possibly land drains. Much less distinct anomalies on the same alignment can be seen at the southern end of the site. These anomalies are also interpreted as having an agricultural origin.
- 3.3 The agricultural anomalies to the north terminate at or adjacent to a negative linear anomaly aligned broadly from west to east. This anomaly is interpreted as being caused by an infilled field boundary ditch although it also correlates with the boundary between the solid and drift geology, as can be seen on Figure 2. Two other negative linear trends have also been identified in Field 2. Both are thought to be due to recently removed field boundaries or to drains.
- 3.4 At the northern end of Field 2 three further weak trends in the data have been identified aligned from north-west to south-east. These anomalies appear to correlate with linear cropmarks that have been interpreted as being indicative of the Iron Age trackway. The anomalies are probably caused by infilled ditches either side of the trackway. A very short linear trend anomaly has also been identified at the southern edge of the site aligned from south-west to north-east. It is impossible to interpret the cause of this response from such a small anomaly but an archaeological cause cannot be discounted.
- 3.5 Several small areas of enhanced magnetic response have been identified throughout the site and a much larger area where the magnetic background is elevated above the general site background has also been noted. These responses could be indicative of archaeological activity, especially given the proximity of significant archaeological remains. However, natural variation in the composition, and depth of, the solid and drift geologies could also account for the noted responses.

4. Conclusions

- 4.1 Although anomalies have been identified that are thought to locate the continuation of the trackway outside the scheduled area no other coherent magnetic responses have been identified to suggest the presence of further square barrows. Numerous ferrous responses and areas of enhanced magnetic background have been noted, any or all of which could be indicative of archaeological activity. However, it is considered on balance that these anomalies are equally likely to be due to modern activity or the variability of the soils and drift geology. Nevertheless, the archaeological potential of the site cannot be dismissed due to the proximity of important archaeological remains as evidenced by the cropmarks.

The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by direct investigation of sub-surface deposits.

Bibliography

- David, A., 1995, *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines* No. 1. English Heritage
- Gaffney, C., Gater, J. and Ovenden, S., 2002, *The Use of Geophysical Techniques in Archaeological Evaluations*. IFA Technical Paper No. 6

Acknowledgements

Project Management

A. Webb BA MIFA

Fieldwork

S. Harrison BSc MSc PIFA

E. Heapy BSc

Report

S. Harrison

Graphics

S. Harrison

Figures

- Figure 1 Site location (1:50000)
- Figure 2 Site location showing greyscale magnetometer data (1:2000)
- Figure 3 Plot showing greyscale magnetometer data: Field 1 (1:500)
- Figure 4 Plot showing interpretation of magnetometer data: Field 1 (1:500)
- Figure 5 XY trace plot of raw magnetometer data: Field 1 (1:500)
- Figure 6 Plot showing greyscale magnetometer data: Field 2 (1:500)
- Figure 7 Plot showing interpretation of magnetometer data: Field 2 (1:500)
- Figure 8 XY trace plot of raw magnetometer data: Field 2 (1:500)

Appendices

- Appendix 1** Magnetic Survey: Technical Information
- Appendix 2** Survey Location Information
- Appendix 3** Geophysical Archive
- Appendix 4** Cropmark Plan