GEOPHYSICAL SURVEY REPORT

GEOPHYSICS FOR ARCHAEOLOGY & ENGINEERING

Land off Racecourse Road, East Ayton, North Yorkshire

Client
Prospect Archaeology
For
KCS Development Ltd

Survey Report
11617

Date
September 2017

Incorporating

GSB PROSPECTION LTD

and

STRATASCAN LTD

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GEOPHYSICAL SURVEY REPORT

Project name:
Land off Racecourse Road, East Ayton, North Yorkshire

SUMO Job reference:
11617

Client:
Prospect Archaeology
For:
KCS Development Ltd

Survey date:
18 August 2017

Report date:
1 September 2017

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LIST OF FIGURES

DIGITAL CONTENT (Archive Data)

- Minimally Processed Greyscale Images and XY Trace Plots in DWG format
- Digital Copies of Report Text and Figures (both PDF and native formats)

1 SUMMARY OF RESULTS

A detailed magnetometer survey was carried out over an area of 3ha at East Ayton. No responses of definite archaeological interest were identified. The interpretation of one unusual anomaly is difficult, though an archaeological origin seems unlikely. Most of the magnetic responses reflect variations due to the sands, gravels and limestone bedrock. A band of magnetic disturbance may be a result of green waste being spread across part of the field. A possible former boundary has been identified, along with ploughing patterns and probable land drains.

2 INTRODUCTION

2.1 Background synopsis

SUMO Services Ltd were commissioned to undertake a geophysical survey of an area outlined for residential development. This survey forms part of an archaeological investigation being undertaken by **Prospect Archaeology** on behalf of **KCS Development Ltd**.

2.2 Site details

NGR / Postcode	SE 998 857 / YO13 9HZ
Location	The site lies approximately 4km south west of Scarborough, on the eastern outskirts of East Ayton. The A170 forms the southern boundary, existing housing the western limits and agricultural fields lie beyond the other extents of the survey.
HER/SMR	North Yorkshire County Council
District	Scarborough
Parish	East Ayton CP
Topography	Gently undulating, c55m AOD in the south and 70m AOD in the north.
Current Land Use	Agricultural
Weather	Sunny and dry
Geology	Solid: Malton Oolite Member and Coral Rag Member (undifferentiated) – limestone. Superficial: sand and gravel in the south of the site, none recorded in the north (BGS 2017).
Soils	Elmton 2 Association (343b) shallow, well-drained brashy calcareous fine loamy soils over limestone. Some deeper fine loamy or fine loamy over clayey soils (SSEW 1983).
Archaeology	Although prehistoric remains are known to the north, it is thought that the lower slopes, on which the site sits, will have a low to moderate potential for such remains. Later Prehistoric and Roman remains lie south of the site and this period has some potential. Finally, medieval and later remains are unlikely as the land comprised open fields (PA 2017).
Survey Methods	Magnetometer survey (fluxgate gradiometer)
Study Area	4.7 ha (1.7ha unsurveyable overgrown scrub)

2.3 Aims and Objectives

To locate and characterise any anomalies of possible archaeological interest within the study area.

3 METHODS, PROCESSING & PRESENTATION

3.1 Standards & Guidance

This report and all fieldwork have been conducted in accordance with the latest guidance documents issued by Historic England (EH 2008) (then English Heritage), the Chartered Institute for Archaeologists (CIfA 2014) and the European Archaeological Council (EAC 2016).

3.2 Survey methods

Detailed magnetic survey was chosen as an efficient and effective method of locating archaeological anomalies.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1.0m	0.25m

More information regarding this technique is included in Appendix A.

3.3 Data Processing

The following basic processing steps have been carried out on the data used in this report:

De-stripe; de-stagger; interpolate

3.4 Presentation of results and interpretation

. The presentation of the results for each site involves a grey-scale plot of processed data. Magnetic anomalies are identified, interpreted and plotted onto the 'Interpretation' drawings. The minimally processed data are provided as a greyscale image in the Archive Data Folder with an XY trace plot in CAD format. A CAD viewer is available from www.autodesk.com

When interpreting the results, several factors are taken into consideration, including the nature of archaeological features being investigated and the local conditions at the site (geology, pedology, topography etc.). Anomalies are categorised by their potential origin. Where responses can be related to other existing evidence, the anomalies will be given specific categories, such as: *Abbey Wall* or *Roman Road*. Where the interpretation is based largely on the geophysical data, levels of confidence are implied, for example: *Probable*, or *Possible Archaeology*. The former is used for a confident interpretation, based on anomaly definition and/or other corroborative data such as cropmarks. Poor anomaly definition, a lack of clear patterns to the responses and an absence of other supporting data reduces confidence, hence the classification *Possible*.