GEOPHYSICAL SURVEY REPORT

GEOPHYSICS FOR ARCHAEOLOGY & ENGINEERING

St Weonards, Herefordshire

Client
Orion Heritage

Survey Report
11080

Date
April 2017

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Project name:
St Weonards, Herefordshire

SUMO Job reference:
11080

Client:
Orion Heritage

Survey date:
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TABLE OF CONTENTS

LIST OF FIGURES

DIGITAL CONTENT (Archive Data)

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

1 SUMMARY OF RESULTS

A detailed magnetometer survey was conducted over approximately 1ha of pasture. No archaeological responses have been detected. Areas of increased response along with a number of weak linear trends have been classified as being of uncertain origin,. They may be archaeological, natural or agricultural in origin.

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 **Orion Heritage** on behalf of **Maximus Group Ltd**.

2.2 Site details

NGR / Postcode	SO 495 239 / HR2 8NT
Location	The site is located at the south of the village of St Weonards, Herefordshire, which is situated approximately 16km south of Hereford. The A466 forms the north-eastern boundary of the site, with unnamed roads running along the southern and south-western boundaries.
HER/SMR	Herefordshire
Unitary Authority	Herefordshire
Parish	St Weonards CP
Topography	Slightly sloping
Current Land Use	Grassland
Weather	Overcast, dry
Geology	Solid: Brownstones Formation – Micaceous Sandstone. Superficial: None recorded (BGS 2017).
Soils	Eardiston 1 Association (541c), well drained, reddish, coarse loamy soils over sandstone (SSEW 1983).
Archaeology	*Based on current evidence, a moderate potential has been identified for the presence of Prehistoric remains of up to regional significance within the study site boundary, and potential for Medieval agricultural activity of limited significance is also noted. A low potential has been identified for all other periods.LiDAR data shows a roughly circular area of elevated ground in the southern part of the study site. This could be related to a surviving earthwork feature; however it is not possible to discern as to whether it is of an archaeological or natural origin at this stage* (CgMs 2016).
Survey Methods	Magnetometer survey (fluxgate gradiometer)
Study Area	2ha – c.1ha unsurveyable due to farm machinery/buildings

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) and the Chartered Institute for Archaeologists (IfA 2002 & CIfA 2014).

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 also provided.

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*.

4 RESULTS

4.1 *Probable/Possible Archaeology*

No magnetic responses have been recorded that could be interpreted as being of archaeological interest.

4.2 *Uncertain*

4.2.1 An area of enhanced magnetic response in the centre of the area is of uncertain origin. It corresponds with the extant earthwork feature, though the somewhat amorphous shape of the response makes further interpretation difficult. A relatively straight band of increased response to the north of this feature is also of uncertain origin. It is possible that this response forms part of an enclosure, though this interpretation is tentative at best. A natural or agricultural cause seems more likely for both of the responses.

4.2.2 A number of magnetically weak linear trends have been detected. These are again of uncertain origin. It is possible that they are archaeological, agricultural or natural.

4.3 *Ferrous / Magnetic Disturbance*

Ferrous responses close to boundaries are due to adjacent fences and gates. Smaller scale ferrous anomalies ("iron spikes") are present throughout the data and their form is best illustrated in the XY trace plots. These responses are characteristic of small pieces of ferrous debris (or brick / tile) in the topsoil and are commonly assigned a modern origin. Only the most prominent of these are highlighted on the interpretation diagram.

5 DATA APPRAISAL & CONFIDENCE ASSESSMENT

English Heritage Guidelines (EH 2008) Table 4 states that the typical magnetic response on sandstone is average. However, the detection of an earthwork feature along with other linear responses, suggests that this survey is likely to have detected any archaeological features, if present.

6 CONCLUSION

The survey at St Weonards has not identified any responses of archaeological interest, despite the site having moderate potential for preshistoric remains (CgMs 2016). An extant earthwork feature has resulted in a band of magnetic anomalies and there are other areas of enhanced responses and linear anomalies in the data. These have all been categorised as being of uncertain origin, and may be archaeological, natural or of possible agricultural origin.

7 REFERENCES

BGS 2017 British Geological Survey *website*: (http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps) Geology of Britain viewer [Accessed 11/04/2017]

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