GEOPHYSICAL SURVEY REPORT

GEOPHYSICS FOR ARCHAEOLOGY & ENGINEERING

Land South of Bristol Road, Langford, Somerset

Client
Edward Ware Homes

Survey Report
10962

Date
February 2017

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GEOPHYSICAL SURVEY REPORT

Project name:
Land South of Bristol Road, Langford, Somerset

SUMO Job reference:
10962

Client:
Edward Ware Homes

Survey date:
6 February 2017

Report date:
24 February 2017

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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

No anomalies likely to be of archaeological origin were detected. Ridge and furrow cultivation was detected along with an uncertain trend.

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 **Edward Ware Homes.**

2.2 Site details

NGR / Postcode	ST 449 598 / BS25 5LX
Location	The survey area is located between the villagers of Lower Langford and Churchill. The site is bounded to the north by the A38, to the south by the A368 and to the east by Winston Manor.
HER/SMR	Somerset
District	North Somerset
Parish	Churchill
Topography	Mostly flat
Current Land Use	Pasture
Weather Conditions	Dry, clear
Geology	Solid: Mercia Mudstone Group – mudstone and halite-stone. Superficial: Head - clay, silt, sand and gravel (BGS 2017).
Soils	Whimple 1 (572d): Reddish fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging (SSEW 1983).
Archaeology	No known archaeology within application area
Survey Methods	Magnetometer survey (fluxgate gradiometer)
Study Area	1.9 ha

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 and colour-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 No anomalies of archaeological potential were detected.

4.2 Faint parallel linear responses are visible within the dataset. The broader, more open spaced anomalies indicate past ridge and furrow cultivation.

4.3 A weak linear trend was detected, traversing the site from north to south. The straightness of the anomaly suggests that it is not natural in origin; it may represent a footpath, a modern service trench or it could be due to agricultural practices. It is are therefore categorised as being of 'u*ncertain origin*'.

4.4 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 or the colour-scale plots. These responses are characteristic of small pieces of ferrous debris (or brick / tile / igneous rocks) 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 average magnetic response on mudstone can be variable. However, the presence of faint cultivation marks, suggests that this survey is likely to have detected any archaeological features, if present.

6 CONCLUSION

No magnetic responses have been recorded that could be interpreted as archaeological in origin. A weak trend was recorded and has been classified as *uncertain origin*. Evidence of past ridge and furrow cultivation was identified.

7 REFERENCES

BGS 2017 British Geological Survey *website*: (http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps) Geology of Britain viewer [Accessed [21/02/2017].

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SSEW 1983 *Soils of England and Wales. Sheet 3, Midland and Western England*. Soil Survey of England and Wales, Harpenden.