

Thingley Court Farm, Corsham, Wiltshire

An Archaeological Geophysical Survey



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Thingley Court Farm, Corsham, Wiltshire

An Archaeological Geophysical Survey

for

The Corsham Estate

by



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Non-technical Summary

Context One Archaeological Services Ltd, in conjunction with GeoFlo Southwest Geophysical and Flotation Services, carried out a geophysical survey on land at Thingley Court Farm, Corsham, Wiltshire (centred on NGR ST 89317 70161) on 25th February 2013. The investigation was commissioned and funded by the Corsham Estate.

The survey was carried out to indicate whether any archaeological remains exist beneath an area identified for the location of a new barn. Wiltshire Sites and Monuments Record shows the Site to be in an area of probable medieval earth works comprising “ditches and house platforms visible on aerial photographs”.

One side of the geophysical survey was badly affected by a neighbouring farm building but overall the consistency of the data indicated that the selected technique of magnetometry was effective. As a consequence the lack of readings consistent with archaeological features such as ditches or stone built structures should be regarded as significant negative evidence.

Two possible post alignments were noted. However, it likely that most or all of the anomalies derived from modern services and the characteristic scatter of metal and ceramic objects which forms a halo around farm buildings.

1. Introduction

- 1.1 Context One Archaeological Services Ltd (COAS), in conjunction with GeoFlo Southwest Geophysical and Flotation Services, carried out a geophysical survey on land at Thingley Court Farm, Corsham, Wiltshire (centred on NGR ST 89317 70161; hereafter referred to as the Site) on 25th February 2013. The investigation was commissioned and funded by the Corsham Estate.
- 1.2 The survey was carried out to indicate whether any archaeological remains exist beneath an area identified for the location of a new barn. In a letter to COAS dated 28th February 2011 Mr Christopher Waltho (Managing Agent, the Corsham Estate) stated that:
- “...the chosen site lies in an area of probable medieval earth works (SMR No. ST87SE612. The designation is described (County Archaeological Service AER 750-754 - Wiltshire Council 2001) as “extant” and comprises “undated ditches and house platforms visible on aerial photographs”.*
- 1.3 Given the recorded archaeological and historical data for the environs it was determined that a reasonable archaeological response would be to carry out a geophysical survey as a first stage of works prior to any further evaluation, if required.
- 1.4 This report summarises the topographical and geological setting of the Site, and presents the results of the geophysical survey.

2. Site Location, Topography and Geology

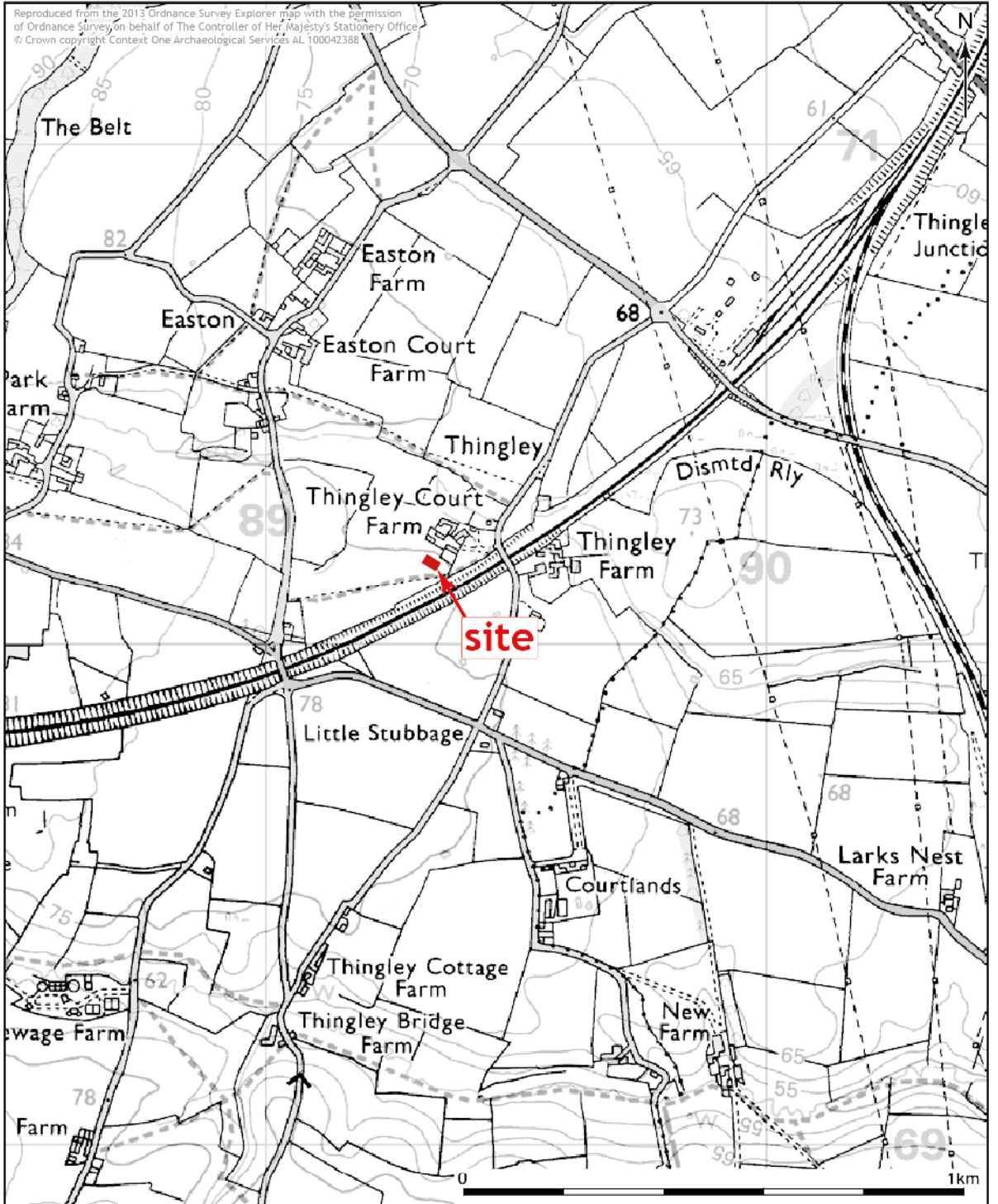
- 2.1 Thingley Court Farm is situated c. 3km east of the centre of Corsham and c. 2.2km south-south-west of the outskirts of Chippenham, Wiltshire, within a field north of a bend in the railway line between the two towns. The focus of the Site was the area proposed for the raising of a c. 15.25 x 27.45m barn immediately to the south west of the existing farmstead, at the east end of a long, narrow, field down to grazing. It occupied fairly level ground at c. 73m above Ordnance Datum (AOD).
- 2.2 The underlying geology consisted of Forest Marble Formation Jurassic sedimentary mudstone (BGS 2013). The soils were characterised by highly fertile lime-rich loams and clays with impeded drainage (NSRI 2013).

3. Methodology

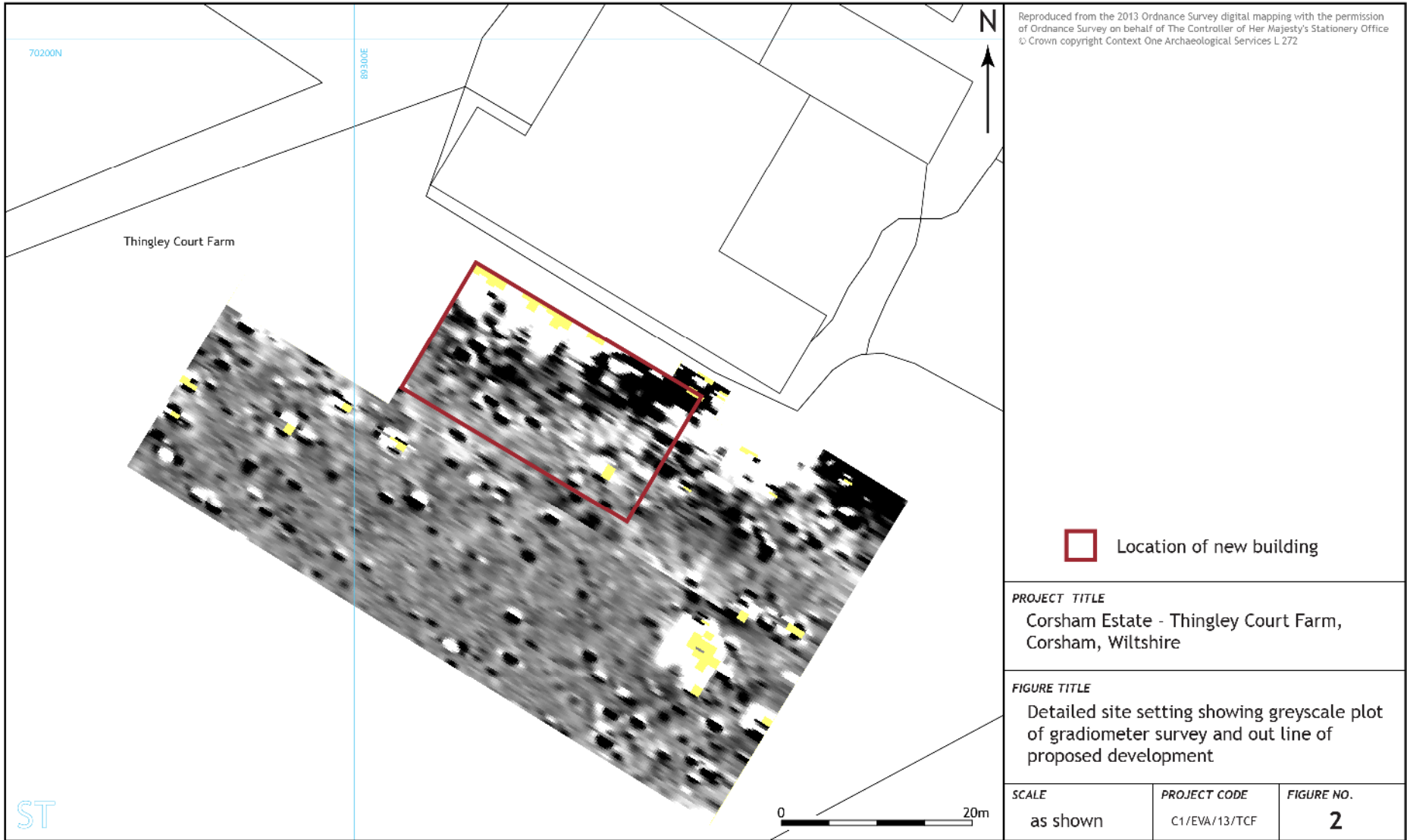
- 3.1 The programme of archaeological work was carried out in accordance with the codes, standards and guidelines set out by the Institute for Archaeologists (IfA 1985, rev. 2012; 1990, rev. 2008; 1994, rev. 2008) and Wiltshire County Council (WCC 1995) at all times during the course of the investigation. Current Health and Safety legislation and guidelines were followed on site.

Geophysical Survey field methodology

- 3.2 The survey area comprised an 80m x 40m rectangle from which a 20m square (**Figure 2**) in the north had to be omitted due to ground conditions (**cover**). The location of the survey grid was established using a TopCon GRS-1 GPS system capable of 1-2cm accuracy.
- 3.3 The magnetometer survey was carried out using a Bartington Grad 601-2 Dual Sensor Gradiometer, comprising a double set of two vertically aligned fluxgates. A built-in data logger automatically recorded magnetic fluctuation between the vertical fluxgates in nano-Tesla (nT) at 0.125m intervals over traverses laid out 1m apart. The instrument has a manufacturer’s specified depth range exceeding 3m



<p>PROJECT TITLE Corsham Estate - Thingley Court Farm, Corsham, Wiltshire</p>		
<p>FIGURE TITLE Site setting</p>		
<p>SCALE as shown</p>	<p>PROJECT CODE C1/EVA/13/TCF</p>	<p>FIGURE NO. 1</p>

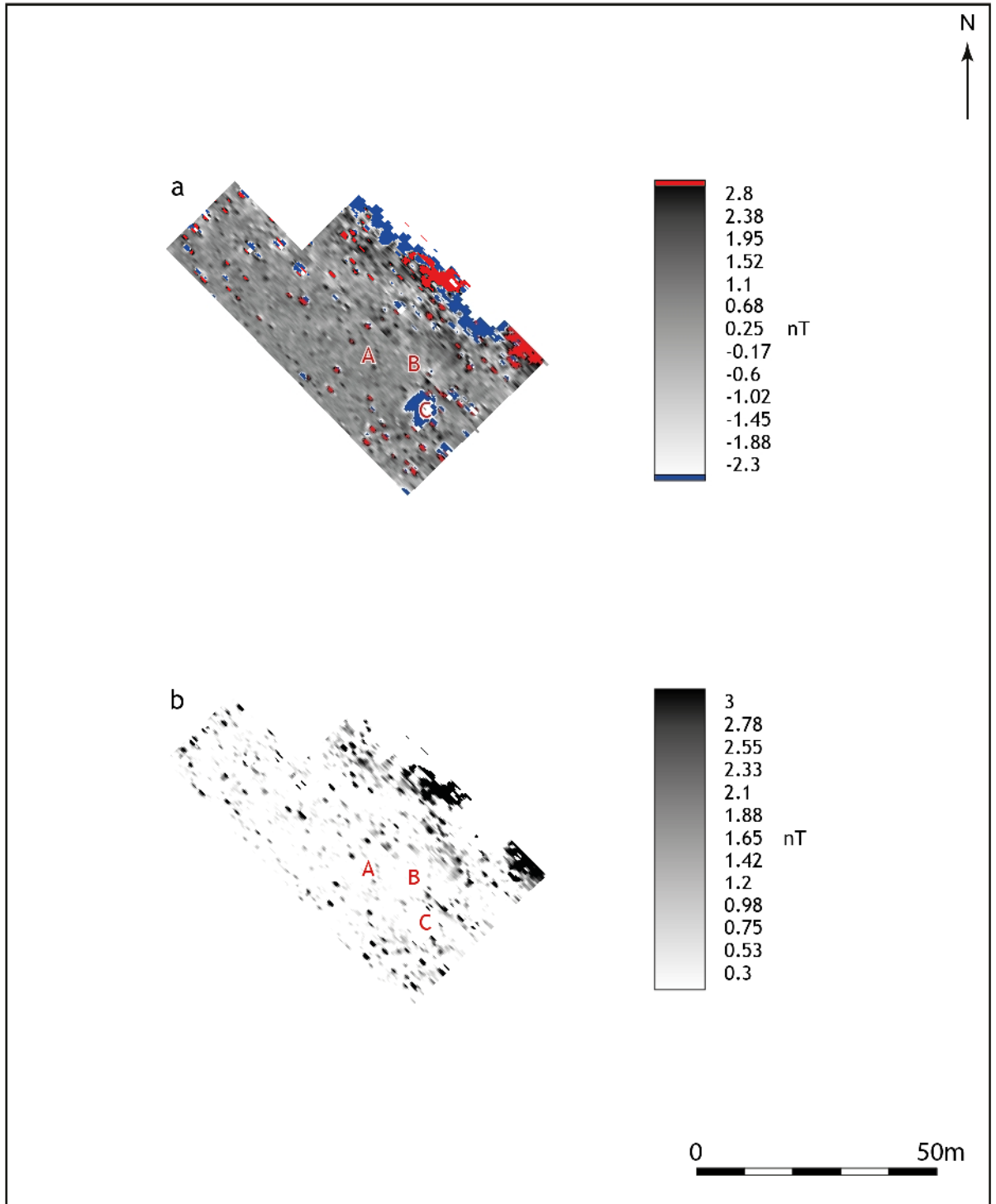


Data processing

- 3.4 The collected data was processed using industry standard Geoscan software, Geoplot 3.0v, which allows the presentation of data in dot-density, grey scale, pattern and X-Y (or *trace*) plots. The latter are particularly effective when used in conjunction with other graphical modes to emphasise ferrous magnetic anomalies or other distortions which show as accentuated peaks or troughs. The programme supports statistical analysis and filtering of the data.
- 3.5 Preliminary processing revealed extensive impact from modern ferrous magnetic features, characterised by sharp dipolar fluctuations ranging from approximately 30nT to over 3000nT. The following processing sequence was designed to mitigate the impact of modern ironwork:
- Readings exceeding 30nT either side of 0 were replaced by null (dummy) entries.
 - Any anomalous isolated readings were similarly replaced ('despike').
 - Typical regular error due to the zig-zag operation of the gradiometer was removed ('destagger').
 - The mean reading for every traverse was reset to 0 ('zero mean traverse').
 - The asymmetric data collection pattern was mitigated by the positive interpolation of data points along the Y axis using the calculation of $\sin X/X$ ('interpolate').
- 3.6 The data were then explored in polychrome, greyscale and trace formats within various graphical 'clip' parameters.

4. Results

- 4.1 The ground conditions were extremely wet following periods of heavy rain and snow.
- 4.2 A strip of up to 6m to 9m along the north-east side of the survey was badly affected by ferrous magnetic material associated with the existing building. Elsewhere, the background was consistent, rendering a smooth graphic, indicating that the ground was well-suited to magnetic survey. Initial coarse clipping of the data within a range of -1nT to 1nT revealed a moderate spread of potentially discrete features (**Figure 2**).
- 4.3 Readings exceeding 2.8nT (red) and less than -2.3nT (blue; **Figure 3a**) advanced steeply to a differential of over 30nT either side of zero on the north-east side of the survey. Elsewhere, some isolated positive or dipolar (sharp fluctuation from positive to negative) readings were typical of those associated with the casual loss of metal items around a farm. Up to 20 of the remaining anomalies have profiles consistent with those of small cut features such as post holes and pits but the without patterning there is no evidence for structures. However, such anomalies may also be caused by objects including small amounts of ferrous material, pieces of ceramic such as land drain or scorched soil.
- 4.4 The greatest archaeological potential was represented by two similarly north to south oriented lines of weak anomalies set c. 12m apart (**Figure 3a**, **A** and **B**). The individual anomalies ranged in strength from c. 1nT to 1.5nT (**Figure 3b**, **A** and **B**). It should be noted that the east alignment, **B**, appears to be linked to a large ferrous magnetic feature, **C**, hence is likely to derive from a modern service pipe or cable. The survey is of sufficient quality to allow confidence that there are no positive or negative linear anomalies of the sort associated with ditches or walls.



<i>PROJECT TITLE</i>		
Corsham Estate - Thingley Court Farm, Corsham, Wiltshire		
<i>FIGURE TITLE</i>		
Processed gradiometer plots showing anomalies		
<i>SCALE</i>	<i>PROJECT CODE</i>	<i>FIGURE NO.</i>
as shown	C1/EVA/13/TCF	3

5. Discussion

- 5.1 The results from along the north-east side of the survey were badly affected by the neighbouring building and cannot be used as evidence for or against the presence of archaeologically significant remains. Smooth background data from the remaining area indicate that the ground was well-suited to magnetic survey. The lack of morphologically distinct anomalies consistent with archaeological features such as ditches or stone built features should be regarded as significant negative evidence.
- 5.2 Initial assessment of the coarse data revealed multiple discrete anomalies from among which some may have been significant. Two possible post alignments were noted. However, it likely that most or all of the anomalies derived from modern services and the scatter of metal and ceramic objects which forms a characteristic halo around farm buildings.

6. Archive

- 6.1 The site archive is currently held at the offices of Context One Archaeological Services Ltd and consists of raw digital data files, processed data in Geoplot 3.0 format and seven digital images in .jpg format.
- 6.2 Copies of the survey report will be deposited with:

The Corsham Estate
The Coach House
Pickwick Road
Corsham
Wiltshire
SN13 9BJ

Wiltshire County Historic Environment Record
Wiltshire Archaeology Service
The Wiltshire and Swindon History Centre
Cocklebury Road
Chippenham
SN15 3QN

7. COAS Acknowledgements

- 7.1 Context One Archaeological Services Ltd would like to thank Mr Christopher Waltho (Managing Agent, the Corsham Estate) for his kind assistance throughout the course of the investigation and Mr D. Scully for assistance with access to the Site. We are very grateful to GeoFlo Southwest Geophysical and Flotation Services for carrying out the survey in adverse conditions

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Wiltshire County Council Libraries, Museums and Arts