

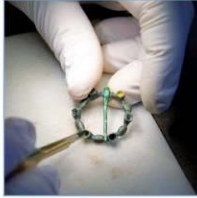
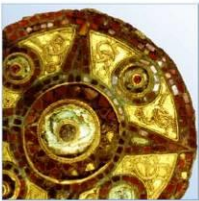
Dover Road, Deal Kent

Archaeological Geophysical Survey

National Grid Reference: TR 36701 49603

AOC Project No: 51808

Date: September 2017



Dover Road, Deal
Kent
Archaeological Geophysical Survey

On Behalf of: WYG Environment Planning Transport Ltd
Arndale Court
The Arndale Centre
Headingley
Leeds
LS6 2UJ

National Grid Reference (NGR): TR 36701 49603

AOC Project No: 51808

Prepared by: James Lawton & Kimberley Teale

Illustrations by: James Lawton & Kimberley Teale

Date of survey: 22nd September 2017

This document has been prepared in accordance with AOC standard operating procedures.

Author: James Lawton

Date: 29th September 2017

Approved by: Graeme Cavers

Date: 29th September 2017

Report Stage: Final Draft

Date: 2nd October 2017

Enquiries to: AOC Archaeology Group
The Raylor Centre
James Street
York
YO10 3DW

Tel. 01904 413404
e-mail. york@aocarchaeology.com

Contents

List of Plates.....	iii
List of Figures.....	iii
Non-Technical Summary.....	iv
1 Introduction.....	1
2 Site location and description.....	1
3 Archaeological Background.....	1
4 Aims	1
5 Methodology.....	3
6 Results and Interpretation.....	3
7 Conclusion.....	4
8 Statement of Indemnity.....	4
9 Bibliography.....	5

Plates

Figures

Appendix 1: Individual Characterisation of Identified Anomalies

Appendix 2: Survey Metadata

Appendix 3: Archaeological Prospection Techniques, Instrumentation and Software Utilised

Appendix 4: Summary of Processes used in Geoplot

Appendix 5: Survey Processing Steps

Appendix 6: Technical Terminology

List of Plates

- Plate 1 North-west paddock looking south-west
Plate 2 Survey area looking east
Plate 3 Survey area looking south-east
Plate 4 Car parking area looking north-west

List of Figures

- Figure 1 Site Location
Figure 2 Location of survey areas - 1:750
Figure 3 Minimally processed gradiometer survey results - greyscale plot - 1:750
Figure 4 Processed gradiometer survey results - greyscale plot - 1:750
Figure 5 Interpretation of gradiometer survey results - 1:750

Non-Technical Summary

AOC Archaeology Group was commissioned by WYG Environment Planning Transport Ltd (hereafter WYG) on behalf of Gladman Developments Ltd, to undertake an archaeological geophysical (gradiometer) survey to investigate the potential for buried archaeological remains on land off Dover Road, Deal, Kent (centred at TR 36701 49603). A total of 0.7 hectares were surveyed and the results of the survey have identified the following.

The results of the survey identified no definitive archaeological anomalies in the survey area.

A number of discrete geophysical trends that are potentially of an archaeological origin were detected. These are further supported by evidence from a previous survey to the west of this, as well as HER results which indicate that these trends may join larger linear anomalies which could possibly be of an archaeological origin.

Furthermore a number of discrete pit like anomalies have been interpreted, however they are tentative on the grounds that the area contains a significantly high amount of ferrous spikes most likely as a result of modern activity, thus suggesting these pits could also be modern. These pits do however have the potential to be archaeological in origin, given the proximity of the site to where inhumations in pits were uncovered just to the west.

A number of large areas of magnetic disturbance most likely the result of modern activity were also recorded. This was particularly evident in the results in the far north and west and along the northern boundary. The high number of ferrous spikes and areas of modern disturbance may be attributed to the land being currently used as horse paddocks, with a number of electric fences and horse equipment present in the survey area at the time.

1 Introduction

- 1.1 AOC Archaeology Group was commissioned by WYG on behalf of Gladman Developments Ltd to undertake an archaeological geophysical survey of land at Dover Road, Deal as part of a wider scheme of archaeological assessment in advance of the proposed development of the site.
- 1.2 The survey was carried out to provide information on the extent and significance of potential buried archaeological remains within the proposed development site.

2 Site Location and Description

- 2.1 The proposed development area is set over an area of paddocks, east of the A258 / Dover Road, centred at TR 36701 49603 (see Figure 1). The survey area covered for this report was contained to the north and north-easterly paddocks within the specified development area.
- 2.2 The specified survey area covered approximately 0.7 hectares (ha) across fields consisting of pasture. The survey area is situated on gently sloping ground from approximately 35m aOD (above Ordnance Datum) in the north-east to 40m aOD in the south-west.
- 2.3 The bedrock recorded geology within the survey area consists of the sedimentary Seaford Chalk Formation (BGS 2017). These are overlain by clay and silt head (Soilscapes 2017).

3 Archaeological Background

- 3.1 The archaeological background below is drawn from the archaeological appraisal undertaken in 2017 (WYG 2017).
- 3.2 There are no World Heritage Sites, Scheduled Monuments, Listed Buildings, Conservation Areas or Registered Parks and Gardens or Battlefields within the development site.

Prehistoric

- 3.3 Within the study area a flint core of either Palaeolithic or Mesolithic date has been recorded to the north-west of the development site (MKE91510).
- 3.4 No Neolithic material is reported from within the study area.
- 3.5 The main source of evidence for Bronze Age activity in the study area has already been mentioned above, on the north side of the proposed development area (MKE21093 & MKE43008). This consisted of a ditch and pits, dating from the Late Bronze Age to the Middle Iron Age. A number of ring ditches have been identified as cropmarks to the south-west and south-east of the development site (MKE6701 & MKE91770), one of which, it is suggested, represents a Bronze Age barrow associated with secondary early medieval burials (MKE91667). The cropmark of another oval enclosure of potential Bronze Age date is located immediately west of the development site (MKE6689).
- 3.6 Within the study area, the ditches and pits observed immediately north of the proposed development site extended in date from the Later Bronze Age to the Middle Iron Age (MKE21093 & MKE43008). Two Iron Age inhumations were also found on the other side of Dover Road, immediately opposite the site (MKE17580). In this case a child and a juvenile had been interred in former storage pits, dated by pottery of Middle to Late Iron Age date. To the south of the proposed development area, four post holes and a gully were identified in the course of a pipeline watching brief (MKE6656). Beyond this, there is a wider spread of more ephemeral material around the study area. Iron Age pottery was found in a later medieval ditch to the south-west of the development sites, and further find spots in the immediate vicinity include two Iron Age copper alloy coins (MKE65670 &

MKE65682). Less precise locations are given for gold Iron Age staters, a La Tène brooch and more copper coins within the study area (MKE7323; MKE7387; MKE10076; MKE65825 & MKE65851).

- 3.7 There are no recorded remains of prehistoric date within the proposed development area itself.

Roman / Romano-British

- 3.8 Romano-British material in the study area is concentrated immediately north of the development site, with some outliers to the south. The main source of evidence comes from the multi-period site north of the development site, in the form of Romano-British reoccupation of a site occupied in the Middle Bronze Age period (MKE21093 & MKE43008). The Romano-British material consisted of east/west aligned boundary ditches, alongside isolated horse and child burials. The excavator reports that the site may have been levelled in the 2nd century AD, preceding the construction of a large aisled building. The excavators have further suggested that this building may represent an ancillary structure related to more substantial settlement to the south, a hypothesis of immediate relevance to the development site (MKE97869). Beyond this concentration of activity, one Romano-British pottery vessel is reported from Sotne Hole Meadow to the south-east of the development site (MKE6635).
- 3.9 There are no known remains of Roman period activity within the proposed development area.

Early Medieval / Medieval

- 3.10 Early medieval evidence within the study area is entirely concentrated to the south-west of the development site in the inner angle of the junction of Dover Road and Ripple Road. An inhumation was identified during a pipe-line watching brief, furnished with an iron spear and shield (MKE6659). A late 5th-century cruciform brooch has also been reported as a findspot nearby (MKE64193). In addition to this artefactual evidence, two separate cropmark complexes in the vicinity of these sites have been identified as potential early medieval cemeteries (MKE91667 & MKE91668).
- 3.11 There are no known remains of medieval period activity within the proposed development area.

Post-medieval

- 3.12 The tithe map for Ringwould circumscribes the proposed development area. This records it as arable in the possession of George Leithe, leased to James Leithe, and known as "Part of South End Down". The map depicts this area as an open field, with a rectangular building in the north-west corner cut into what may be raised scrubland (judging by the hachures). The very western strip of the proposed development area was instead subdivided into a roadside close containing a small building.
- 3.13 A number of courtyard farms representative of this agricultural focus are (or were) located within the study area, including King's Barn in the north-west tip of the proposed development area (MKE88050; MKE87118 & MKE87119).

4 Aims

- 4.1 The aim of the geophysical survey was to identify any potential archaeological anomalies that would enhance the current understanding of the archaeological resource within the proposed survey area.
- 4.2 Specifically the aims of the gradiometer survey were;
- To locate, record and characterise any surviving sub-surface archaeological remains within the survey area
 - To help determine the next stage of works as per the client's instruction

- To provide an assessment of the potential significance of any identified archaeological remains in a local, regional and (if relevant) national context
- To produce a comprehensive site archive and report.

5 Methodology

- 5.1 All geophysical survey work was carried out in accordance with recommended good practice specified in guideline documents published by English Heritage – now Historic England (David *et al.* 2008) and the Chartered Institute for Archaeologists *Standard and Guidance for archaeological geophysical survey* (2014).
- 5.2 Parameters were selected that were suitable for the prospective aims of the survey and in accordance with recommended professional good practice (David *et al.* 2008, 8).
- 5.3 The gradiometer survey was carried out using Bartington Grad601-2 fluxgate gradiometers (see Appendices 2 and 3). Data was collected on an east-west alignment using zig-zag traverses, with a sample interval of 0.25m and a traverse interval of 1m. A total of 20 full or partial 30m by 30m grids were surveyed within the specified area, totalling an area of approximately 0.7ha.
- 5.4 Attention was taken to avoid metal obstacles present within the survey area during data collection using gradiometers. Gradiometer survey is affected by ‘above-ground noise’ such as metal objects, and avoiding these improves the overall data quality and results obtained.
- 5.5 The gradiometer data were downloaded using Bartington Grad601 PC Software v313 and processed using Geoscan Geoplot v3.0 / v4.0. The details of these processes can be found in Appendices 4 and 5. Data processing, storage and documentation were carried out in accordance with the good practice specifications detailed in the guidelines issued by the Archaeology Data Service (Schmidt and Ernenwein, 2009).
- 5.6 Interpretations of the data were created as layers in AutoCAD LT 2009 / GIS and the technical terminology used to describe the identified features can be found in Appendix 6.

6 Results and Interpretation

- 6.1 The gradiometer survey results have been visualised as greyscale plots, with the minimally processed data plotted at -1nT to 2nT in Figure 3. The processed data is also plotted at -1nT to 2nT and can be seen in Figure 4. An interpretation of the data can be seen in Figure 5 and an individual characterisation of the identified anomalies follows this in Appendix 1.

Archaeology

- 6.2 No responses indicating definitive archaeological remains have been located in the survey area.

Discrete linear trends

- 6.3 Several discrete linear and curvilinear trends have been identified in the central part of the survey area (**D1-D3**). These discrete features comprise increased signals compared to the background values however poor patterning of these response values and weaker strength makes interpretation difficult and more tentative. An archaeological origin could be suggested, possibly relating to ditches.
- 6.4 A number of linear anomalies which could form a part rectilinear shape have been interpreted (**D1**). These run in both a north-west to south-east and a north-east to south-west direction. These trends would also appear to correlate with responses identified in a previous survey immediately to the west. When the results are combined, they would appear to form a larger rectilinear anomaly in a possible enclosure shape which is likely to have an archaeological origin.

- 6.5 A curvilinear feature has been detected in the centre of the dataset which would appear to be sub-circular in shape (**D2**). This anomaly could also form an enclosure and is likely to be archaeological in origin.
- 6.6 Further linear anomalies are visible to the east of these features, running in roughly a north-east to south-west direction (**D3**). Whilst these features may be related to those seen in the west; they could alternatively be related to agriculture or geology.

Discrete pits

- 6.7 A number of discrete pit like anomalies have been identified across the area (**D4**). Discrete pits are described as an anomaly composed of an increase in magnetic values with a patterning on the XY trace plot that is suggestive of buried remains, such as the infill of a pit, but is isolated in its location and association with other features.
- 6.8 These discrete pit features are not seen as being definitively pits related to archaeology, but they have the potential to be. The reason for this tentative interpretation is that the anomalies look very similar, both in appearance and magnetically, to ferrous spikes across the dataset. However due to the geophysical anomalies seen in the rest of the dataset, as well as evidence west of the survey area where pit inhumations were previously excavated; the pits have potential to be archaeological in nature.

Non-archaeology

- 6.9 A number of areas of magnetic noise have been detected in the results (**D5**). Areas of modern disturbance are characterised by significant increases or decreases in values compared with background readings. This disturbance is located along the northern survey boundary as well as the area surrounding the current farm buildings and stable block in the far north and west of the site. These remains are most likely as a result of modern activity or larger pieces of magnetic debris such as bits of fencing detritus and modern debris around the farm as well as existing modern buildings located to the north of the field boundary.
- 6.10 Across the data set there is a large quantity of isolated dipolar anomalies (iron spikes). These are commonly caused by ferrous or high magnetically susceptible material on the surface or within the topsoil of the site, and it is likely that modern agricultural activity has changed the magnetic properties of the top soil and created a high level of background 'noise' within the data set. In the case of this site due to its use as horse paddocks a number of these metal spikes may be as a result of discarded horse shoes in the area.

7 Conclusion

- 7.1 The gradiometer survey has not identified any anomalies or features of a definitive archaeological nature.
- 7.2 Across a number of the areas a number discrete linear and curvilinear trends were identified but due to their poor strength and patterning only a tentative interpretation can be formed as to their origin. However when combined with the results of a survey directly to the west and south they would appear to form a tentative rectilinear enclosure.
- 7.3 It is felt that due to the evidence gained from the previous survey accompanied by the archaeological evidence located close by that these could be of an archaeological origin.
- 7.4 Only more intrusive investigation would confirm whether or not these are archaeological enclosures, or if they have alternative origins such previous field divisions or even geological variations.

- 7.5 A large proportion of the site was covered in areas of magnetic disturbance of a likely modern date as well as a large number of ferrous spikes which might well be related to its use as horse paddocks.

8 Statement of Indemnity

- 8.1 Although the results and interpretation detailed in this report have been produced as accurately as possible, it should be noted that the conclusions offered are a subjective assessment of collected data sets.
- 8.2 The success of a geophysical survey in identifying archaeological remains can be heavily influenced by several factors, including geology, seasonality, field conditions and the properties of the features being detected. Therefore the geophysical interpretation may only reveal certain archaeological features and not produce a complete plan of all of the archaeological remains within a survey area.

9 Bibliography

- Bartington Instruments, 2007 *Operation Manual for Grad601 Single Axis Magnetic Field Gradiometer System*
- Bartington Instruments, 2016 *Operation Manual for Non-Magnetic Cart*
- British Geological Survey, Geology of Britain Viewer, <http://www.bgs.ac.uk/data/mapViewers/home> (last accessed 29.9.2017)
- ClfA, 2014 *Standards and Guidance for Archaeological Geophysical Survey*
- Clark, A., 1996 *Seeing Beneath the Soil: Prospecting Methods in Archaeology*, Second Edition. London
- David, A. Linford, N. Linford, P., 2008, English Heritage (Historic England): *Geophysical Survey in Archaeological Field Evaluation*, Swindon
- Gaffney, C. and Gater, J., 2003 *Revealing the Buried Past Geophysics for Archaeologists*. Stroud: Tempus Publishing Ltd.
- Geoscan Research, 2005 *Geoplot – Instruction Manual, Version 1.97*
- Heron, C. and Gaffney, C., 1987 'Archaeogeophysics and the site: ohm sweet ohm?' in C. Gaffney and V. Gaffney (eds.) *Pragmatic Archaeology: Theory in crisis?* British Archaeological Report, British Series 167:71-81.
- Old-Maps, <https://www.old-maps.co.uk/> (last accessed 29.9.2017)
- Schmidt, A. and Ernenwein, E., 2009 *Archaeology Data Service: Geophysical Data in Archaeology: A Guide to Good Practice*
- Schmidt, A. Linford, P. Linford, N. David, A. Gaffney, C. Sarris and A. Fassbinder, J. 2015. *EAC Guidelines for the Use of Geophysics in Archaeology: Questions to Ask and Points to Consider*. EAC Guidelines 2, Archaeolingua, Belgium
- Sharma, P.V., 1997 *Environmental and Engineering Geophysics*
- Soilscapes, <http://www.landis.org.uk/soilscapes2> (last accessed 29.9.2017)
- WYG, *Land off Dover Road, Deal "Archaeological Appraisal & Geophysical Survey"*, Gladman Developments Ltd, 2017



Plate 1. North-west paddock looking south-west



Plate 2. Survey area looking east



Plate 3. Survey area looking south-east



Plate 4. Car parking area looking north-west

DOVER ROAD, DEAL, KENT
AOC PROJECT NO. 51808



Figure
1

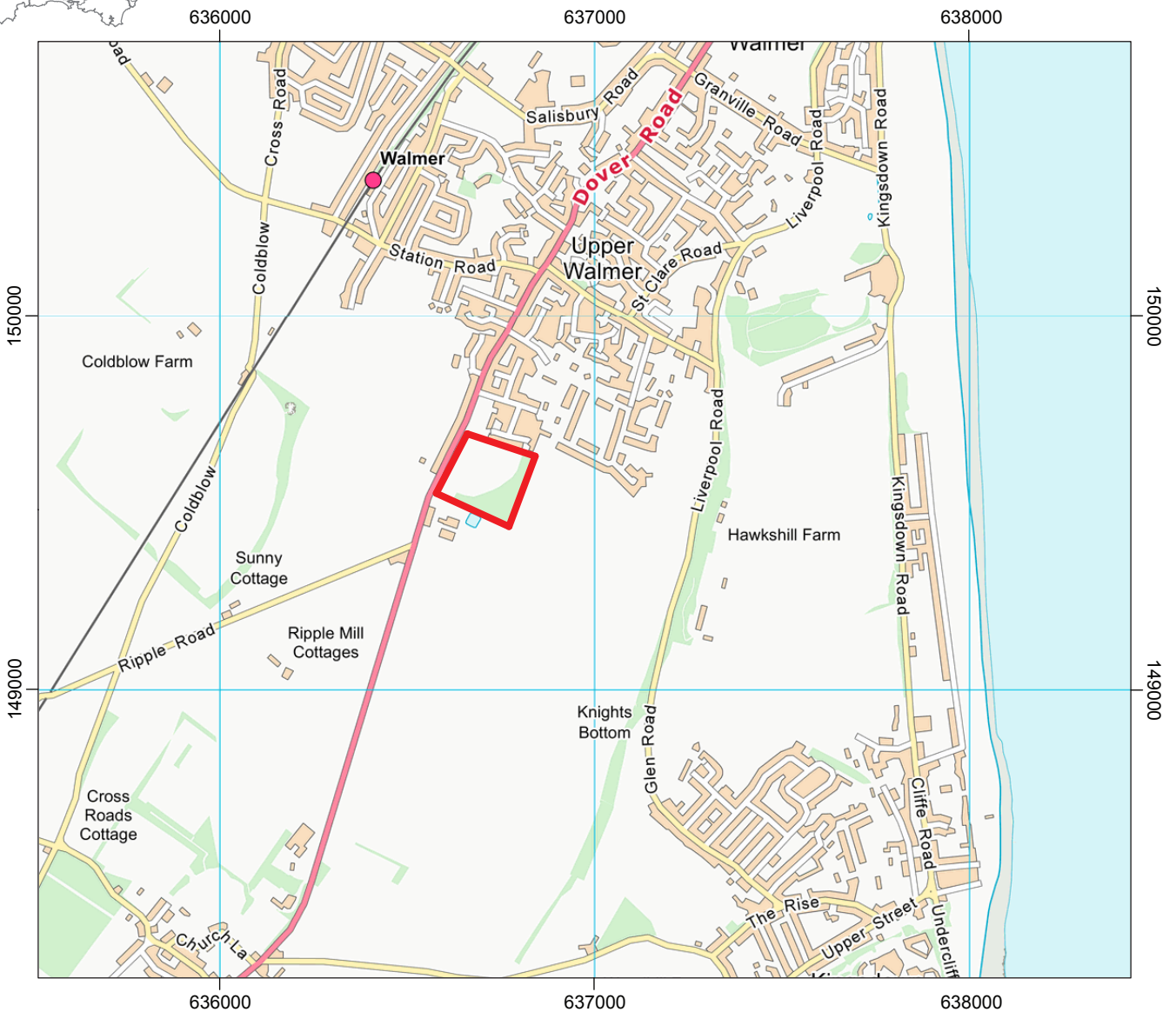


Site location



Based on data provided by the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office.

© Crown Copyright. Licence no. AL 100023757

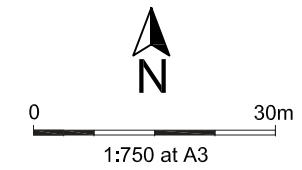




Location of survey areas

Figure 2

- Areas Surveyed
- Areas Not Surveyed
- Red Line Boundary



Project Title: Dover Road, Deal, Kent		
Project No: 51808		
Drawing Title: Figure 2		
Location of Survey Areas		
V1/51808/GEO/F2/28.09.17		
Drawn by: KT	Checked by: JL	Approved by: JL
28/09/2017	28/09/2017	28/09/2017

