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Reighton Sands Golf Course
Reighton
North Yorkshire

Geophysical Survey

April 2010

Report No. 2055

C L I E N T

Bourne Leisure Limited

Reighton Sands Golf Course Reighton North Yorkshire

Geophysical Survey

Summary

A geophysical (magnetometer) survey, covering approximately 12 hectares in eleven blocks, was carried out immediately south of Reighton Sands Holiday Park on an area of rough pasture where it is proposed to create a nine hole golf course. Anomalies due to geological variation, agricultural and modern activity have been identified. Three clusters of anomalies of unknown origin have also been located. No anomalies specifically correlating with the extent of a small mound of putative archaeological origin have been identified although there are anomalies within and immediately adjacent to the feature whose origin is uncertain. However, it is considered likely that the mound is most likely to be a natural topographic feature. On the basis of the geophysical survey the site is considered to have a low archaeological potential.

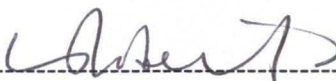


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Report Information

Client: Bourne Leisure Limited
Address: 1, Park Lane, Hemel Hempstead, Hertfordshire, HP2 4YL
Report Type: Geophysical survey
Location: Reighton
County: North Yorkshire
Grid Reference: TA 140 755
Period(s) of activity: None
represented
Report Number: 2055
Project Number: 3497
Site Code: RSG09
Planning Application No.: Pre-determination (Outline)
Museum Accession No.: n/a
Date of fieldwork: November 2009
Date of report: April 2010
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Contents

Report information.....	ii
Contents	iii
List of Figures	iv
1 Introduction	1
Site location, topography and land use.....	1
Geology and soils	1
2 Archaeological background.....	2
3 Aims, Methodology and Presentation	2
4 Results	2
5 Discussion and Conclusions.....	4

Figures

Appendices

Appendix 1: Magnetic survey: technical information

Appendix 2: Survey location information

Appendix 3: Geophysical archive

Bibliography

List of Figures

- 1 Site location (1:50000)
- 2 Site location showing greyscale magnetometer data (1:3000)
- 2a Geophysical survey areas (blue) focused on proposed groundworks, overlaying the approved plan for the golf course (not to scale)
- 3 Processed greyscale magnetometer data; Block 1 and Block 2 (1:1000)
- 4 XY trace plot of unprocessed magnetometer data; Block 1 and Block 2 (1:1000)
- 5 Interpretation of magnetometer data; Block 1 and Block 2 (1:1000)
- 6 Processed greyscale magnetometer data; Block 3 and Block 4 (1:1000)
- 7 XY trace plot of unprocessed magnetometer data; Block 3 and Block 4 (1:1000)
- 8 Interpretation of magnetometer data; Block 3 and Block 4 (1:1000)
- 9 Processed greyscale magnetometer data; Block 5 and Block 6 (1:1000)
- 10 XY trace plot of unprocessed magnetometer data; Block 5 and Block 6 (1:1000)
- 11 Interpretation of magnetometer data; Block 5 and Block 6 (1:1000)
- 12 Processed greyscale magnetometer data; Block 7 and Block 8 (1:1000)
- 13 XY trace plot of unprocessed magnetometer data; Block 7 and Block 8 (1:1000)
- 14 Interpretation of magnetometer data; Block 7 and Block 8 (1:1000)
- 15 Processed greyscale magnetometer data; Block 9 and Block 10 (1:1000)
- 16 XY trace plot of unprocessed magnetometer data; Block 9 and Block 10 (1:1000)
- 17 Interpretation of magnetometer data; Block 9 and Block 10 (1:1000)
- 18 Processed greyscale magnetometer data; Block 11 (1:1000)
- 19 XY trace plot of unprocessed magnetometer data; Block 11 (1:1000)
- 20 Interpretation of magnetometer data; Block 11 (1:1000)

1 Introduction

Archaeological Services WYAS was commissioned by Mike Stephenson of Bourne Leisure Limited to carry out a programme of non-intrusive geophysical (magnetometer) survey in advance of the proposed development of land south of Reighton Sands Holiday Park for a nine hole golf course. The survey was undertaken in November 2009.

Site location, topography and land use

The site, centred at TA 140 755, is located about 7km to the south-east of Scarborough (see Fig. 1), immediately across a shallow valley south of Reighton Sands Holiday Park. Reighton village is located approximately 1km to the west. The site comprises four fields of rough pasture, interspersed with patches of gorse, and is split in two by Old Beck which runs across the site from east to west (see Fig. 2). The beck appears to be a natural water course which has been artificially deepened and re-cut to act as a drain. To the east is rough pasture with the field to the south-west under arable cultivation. On the northern side of the beck are several areas of dumped building material and debris. The site is situated at between 65m and 80m above Ordnance Datum.

Geology and soils

The solid geology comprises chalk and greensands overlain by chalky till. The soils are classified in the Burlingham 2 soil association comprising deep fine loams and sands.

2 Archaeological background

An archaeological desk-based assessment undertaken by Archaeological Services WYAS (Pollington 2007) revealed an historic hedge line and an earthwork mound which was interpreted as possibly being the remains of a Bronze Age barrow within the site boundary. Extensive evidence for prehistoric and medieval activity within 1km of the site lead to the conclusion that there was potential for unrecorded sub-surface archaeological remains within the site.

3 Aims, Methodology and Presentation

The general aim of the survey was to obtain information that would evaluate the archaeological potential of the site. This information would then enable further, informed, decisions to be taken prior to the finalisation of the development proposals.

Specifically the aims were to:-

- Record the nature and extent of any archaeological remains within the proposed areas of groundworks;

- to determine the nature of the earthwork mound.

To achieve these aims eleven individual blocks covering 11.75 hectares were surveyed. These blocks were positioned at locations where groundworks will be undertaken for the creation of ponds, greens and bunkers and also over the putative Bronze Age mound.

Magnetometer survey

Bartington Grad601 magnetic gradiometers were used during the survey taking readings at 0.25m intervals on zig-zag traverses 1m apart within 30m by 30m grids so that 3600 readings were recorded in each grid. These readings were stored in the memory of the instrument and later downloaded to computer for processing and interpretation. Geoplot 3 (Geoscan Research) software was used to process and present the data. Further details are given in Appendix 1.

Reporting

A general site location plan, incorporating the Ordnance Survey map is shown in Figure 1. A large scale (1:3000) site location plan with processed greyscale magnetometer data is shown in Figure 2. The data are presented in greyscale and X-Y trace plot formats with accompanying interpretation graphics in Figures 3 to 20 inclusive at a scale of 1:1000.

Further technical information on the equipment used, data processing and survey methodologies are given in Appendix 1 and Appendix 2. Appendix 3 describes the composition and location of the site archive.

The geophysical survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David *et al.* 2008) and by the IfA (Gaffney *et al.* 2002). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

The figures in this report have been produced following analysis of the data in 'raw' and processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

4 Results

Block 1 and Block 2 (see Figs 2, 3, 4 and 5)

Block 1 and Block 2 were located to cover the areas where it is proposed to site a green and a bunker respectively.

A discontinuous linear anomaly aligned broadly north/south and a small discrete anomaly immediately to the east are identified in Block 1. Without any supporting information it is

difficult to make a confident interpretation. An archaeological cause cannot be excluded but it is considered more likely to be due to modern activity or perhaps to geological factors.

No anomalies other than ferrous responses (iron 'spikes') have been identified in Block 2. These anomalies are due to ferrous material either on the ground surface or in the ploughsoil and are assumed to be modern in origin.

Block 3 and Block 4 (see Figs 2, 6, 7 and 8)

This is essentially one large block divided by the course of Old Beck, with Block 3 to the north of Old Beck and Block 4 to the south, and covers a proposed area of wetland, an artificial amphibian hibernaculae, five bunkers and a green. The earthwork mound was located to the north of the beck in Block 3.

The data in both blocks is characterised by the presence of numerous broad, irregular and predominantly low magnitude anomalies (areas of magnetic enhancement). These anomalies are interpreted as geological in origin and are thought to be due to the deposition of alluvium adjacent to the beck.

In contrast to the geological anomalies are three distinct groups of anomalies that are considered to have some archaeological potential. On the northern edge of Block 3 a series of linear anomalies, **A1**, can be seen. Some of these are aligned similarly to the weak parallel anomalies that are visible to the west of the block and which are interpreted as agricultural, being either due to ploughing or more likely to field drains. However, an archaeological origin cannot be dismissed.

The remaining two clusters are located to the south-eastern corner of Block 3, within 40m of the beck. On the eastern edge of the block a sub-circular cluster of anomalies, **A2**, are prominent in the data. Again an archaeological explanation cannot be excluded but a modern cause is considered more plausible.

Forty metres to the west is the final cluster of anomalies, **A3**. A degree of linearity to some of these anomalies is apparent which could suggest an anthropogenic cause, but whether due to an archaeological feature or much more recent activity is unclear.

To the western side of Block 3 a number of linear trend anomalies are interpreted as being probably due to field drains.

No anomalies specifically correlating with the extent of the mound have been identified although there are anomalies identified within the bounds of the feature and immediately beyond it.

Block 5 and Block 6 (see Figs 2, 9, 10 and 11)

These two small blocks cover the proposed locations of greens.

Anomalies due to geological and pedological variation predominate in Block 5 and to a lesser extent in Block 6. A vague linear trend anomaly of uncertain, probably agricultural, origin is also noted in Block 6.

Block 7 and Block 8 (see Figs 2, 12, 13 and 14)

These blocks cover the position of greens, water features and areas of tree planting.

Areas of modern ferrous disturbance and areas of magnetic enhancement due to geological variation are common in Block 7.

In Block 8 several linear trends of unknown, probably agricultural, origin have been identified together with several small discrete anomalies interpreted as geological.

Block 9 and Block 10 (see Figs 2, 15, 16 and 17)

Blocks 9 and 10 cover greens and an area of tree screening.

Geological anomalies, modern disturbance and vague linear trends of unknown origin have been noted in these blocks.

Block 11 (see Figs 2, 18, 19 and 20)

Block 11 covers a green and tree screen.

A large area of magnetic disturbance in this block suggests the deliberate spreading of strongly magnetic material such as building rubble or slag.

5 Discussion and Conclusions

Although numerous anomalies have been identified by the survey none are considered to be of probable archaeological origin. The greatest concentration of anomalies is immediately adjacent to the beck at the western end of the site in Blocks 3 and 4. Here, and elsewhere across the site, the anomalies are almost certainly indicative of underlying variation in the drift geology and soils. However, some anomalies which are not obviously geological have been noted in Block 3. It is considered most likely that these three clusters of anomalies will be due to relatively recent activity but an archaeological origin cannot be completely dismissed. Some of these anomalies fall within or immediately adjacent to the low mound. However, from the contour data shown on Figure 2 it seems as if the mound forms the southern end of a spur of land along the 70m contour line. For this reason it is concluded that this mound is probably a natural topographic feature.

On the basis of the geophysical survey the site is considered to have a low archaeological potential.

The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by direct investigation of sub-surface deposits.



Fig. 1. Site location

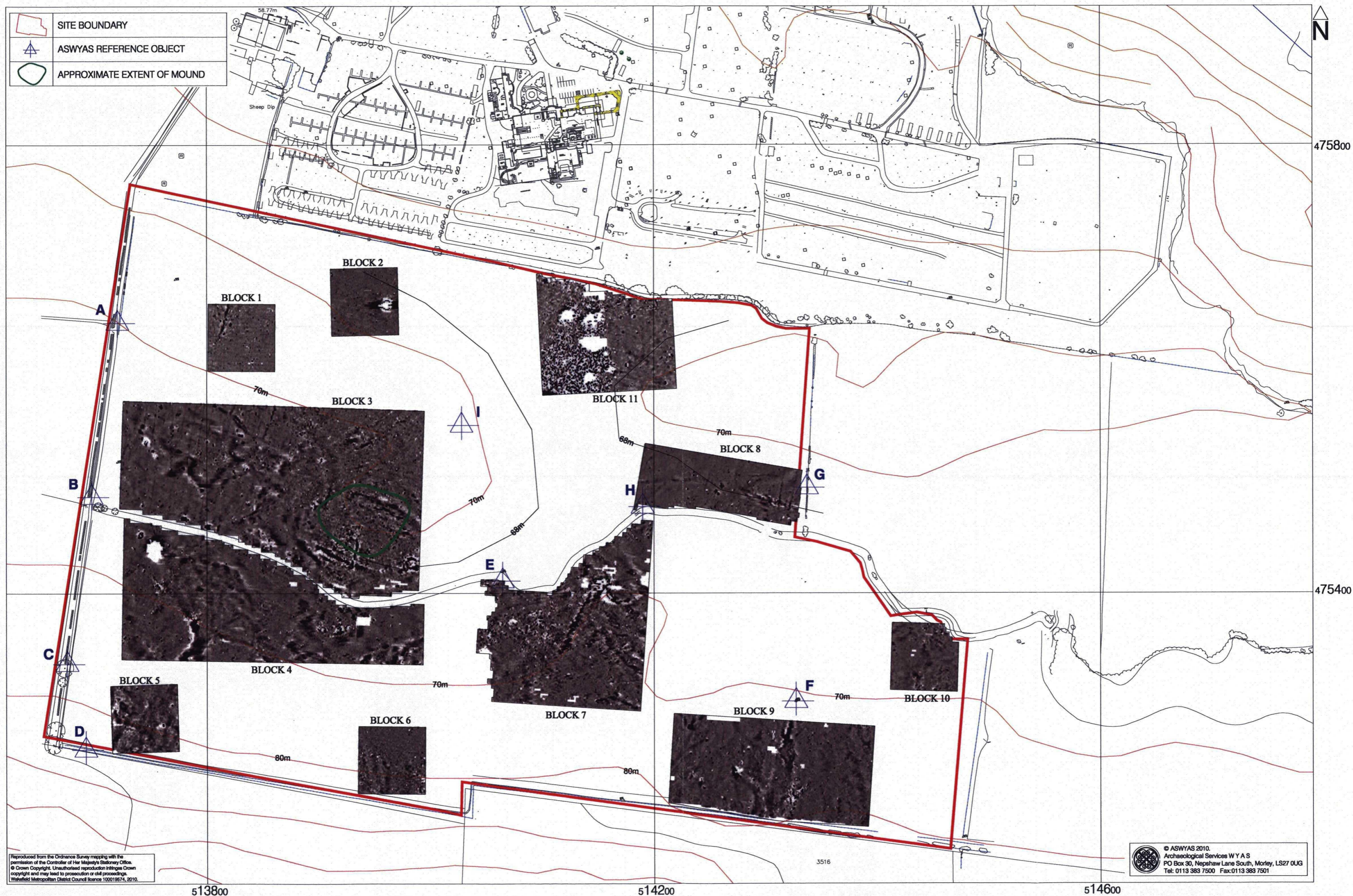


Fig. 2. Site location showing greyscale magnetometer data (1:3000 @ A3)

