Archaeological Services & Consultancy Ltd

GEOPHYSICAL SURVEY: OLD SCOTNEY CASTLE NR LAMBERHURST KENT

NGR: TQ 6890 3520

on behalf of

Archaeology South East

for

The National Trust

Alastair Hancock BSc PGDip MIFA

September 2008

ASC: 1101/SCK/02

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Site Data

ASC project code:	SCK	*ASC project no:*	1101
OASIS ref:	archaeol2-47765	*Event/Accession no:*	na

County:	Kent
Site:	Old Scotney Castle, Nr Lamberhurst
Civil Parish:	Lamberhurst
NGR (to 8 figs):	TQ 568900 135200 (centre)
Extent of site:	*c.*0.5 hectare
Present use:	National Trust Estate
Planning proposal:	na
Planning application ref/date:	na
Local Planning Authority:	na
Date of fieldwork:	26th August 2008
Commissioned by:	Archaeology South East Units 1 & 2 2 Chapel Place Portslade nr Brighton, BN41 1DR East Sussex
Client:	The National Trust Scotney Castle Lamberhurst Tunbridge Wells Kent TN3 8JN
Contact name:	Ron Humphrey (Archaeology South East)

Internal Quality Check

Primary Author:	A Hancock	*Date:*	9th September 2008

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Edited/Checked By:		*Date:*	

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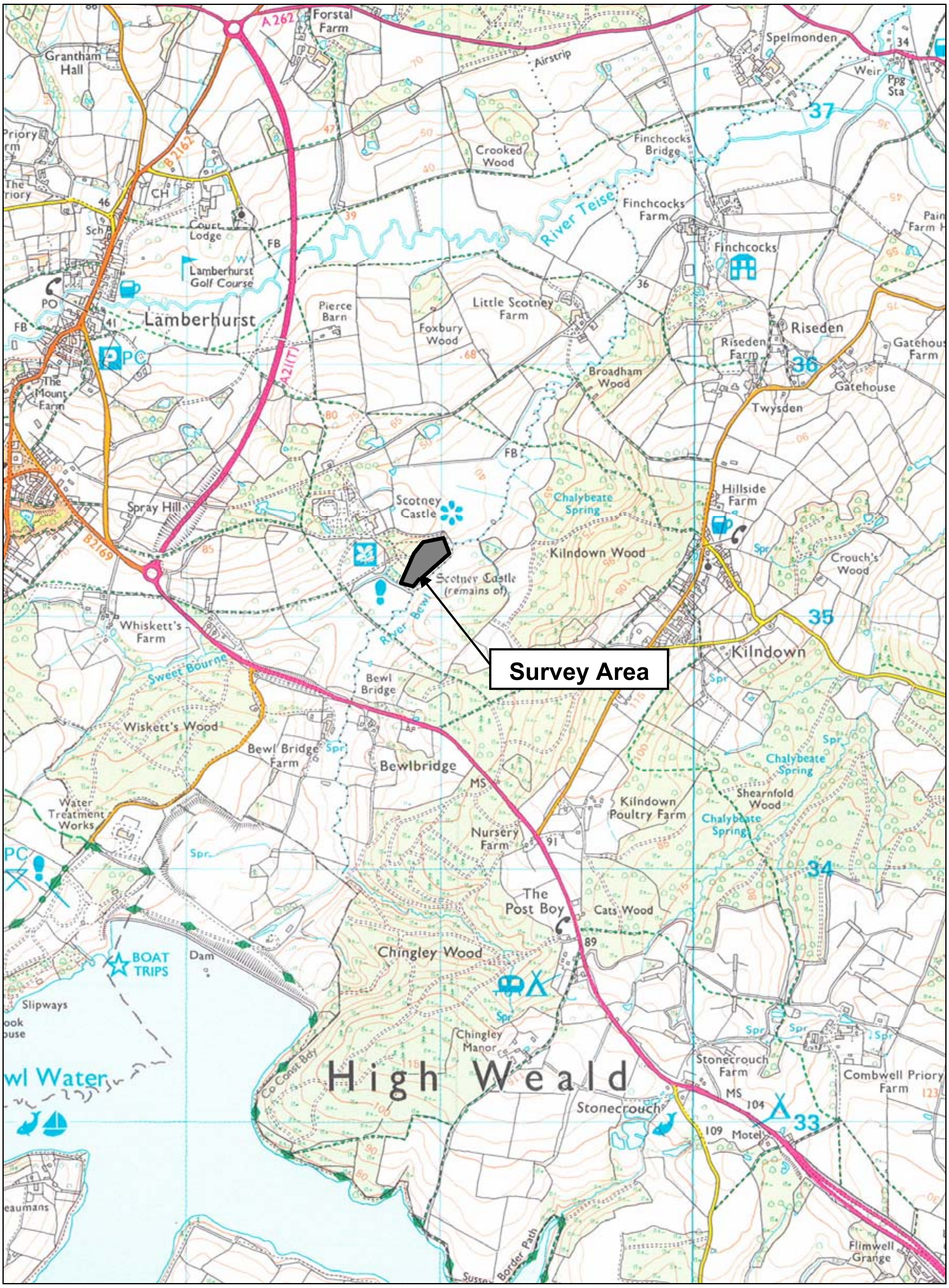

Figure 1: General location *(scale 1:25,000)*

Summary

Geophysical survey (0.25 hectares of detailed resistance and magnetometry) was carried out by ASC Ltd on three islands within The National Trusts' Scotney Castle Estate. The resistance survey has suggested that sub-surface structural remains are present on all three islands although medieval/post medieval structural features associated with the old castle and its outbuildings are more confidently identified on the two islands at the north of the survey area. The magnetometer survey has supported the results of the resistance survey and allowed a more holistic interpretation.

1. Introduction

1.1 *General*

Archaeological Services and Consultancy Ltd (ASC) was commissioned by *Archaeology South East* on behalf of *The National Trust,* to carry out detailed resistance and magnetometer (fluxgate gradiometer) survey over *c.*0.5 hectares of land at Scotney Castle, Nr Lamberhurst, Kent (NGR TQ 568900 135200, site centre: Fig. 1). The survey area consisted of three artificial islands situated within a moat which are designated as a Scheduled Ancient Monument (SAM 24400). In compliance with relevant legislation, a Section 42 Licence (Appendix 1) was obtained from *English Heritage* before commencement of the fieldwork.

1.2 *Planning Background*

The survey was undertaken in order to inform an estate management plan.

1.3 *The Site*

1.3.1 *Location & Description*

Scotney Castle is located in the Bewl Valley, *c.*1.5km south east of the village of Lamberhurst, in the High Weald of Kent (Fig. 1). The Scotney Castle Estate is owned by The National Trust and is open to the public.

The geophysical survey was centred at TQ 568900 135200 and examined suitable parts of three artificial islands, which were located within a moat and encompassed a total area of *c.*0.5 hectares, (Fig. 2). Remnants of Old Scotney Castle (*c.*1380), and later structural additions to it, designated as a Scheduled Ancient Monument since 1933 (SAM 24400) and parts of which are also Grade 1 Listed, are located on the most northerly of the islands.

1.3.2 *Geology & Topography*

The natural soils of the majority of the survey area belong to the Wickham 1 Association (Soil Survey 1983, 711e); soils of the Curtisden Association (Soil Survey 1983, 572i) may be present at the south of the area. The underlying solid geology is of the Hastings Group, formed of a variable series of dominantly freshwater floodplain deposits consisting of the Ashdown Beds, the Wadhurst Clay and the Tunbridge Wells Sand. The proximity of the survey area to the River Bewl and the presence of extensive medieval and later landscaping suggest that the natural soil profile will have been buried by alluvium or truncated by human activity. The survey areas were relatively flat and lay at *c.*40m AOD.

1.3.3 *Constraints*

The weather was overcast but otherwise fine during the fieldwork. Flower beds, trees, shrubs, metalled surfaces and structures reduced the surveyable area from *c.*0.5 hectares to *c.*0.25 hectares

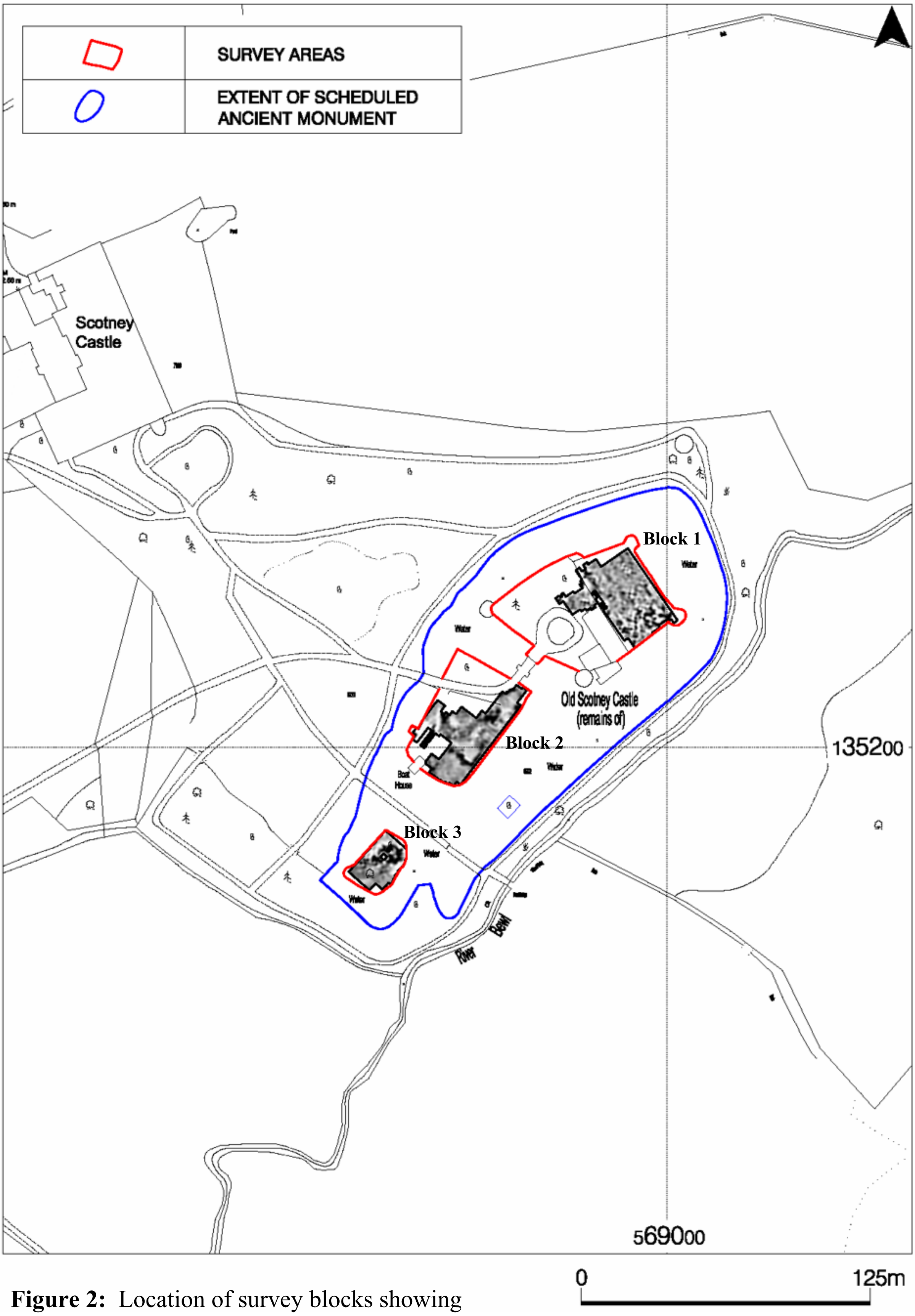

Figure 2: Location of survey blocks showing greyscale resistance data *(scale 1:2500)*

2. Archaeological & Historical Background

2.1 *Introduction*

The following sections summarise the findings of an Archaeological and Historic Landscape Assessment compiled by Archaeology South East (James 2007). The site lies within an area of archaeological and historical interest, and has the potential to reveal evidence of a range of periods although the focus is likely to lie in the medieval and post medieval periods.

2.2 *Prehistoric* *(before 600BC)*

Finds or features of the prehistoric periods are not known in the immediate environs of the survey area. The area was thickly wooded throughout the prehistoric periods and human exploitation seems to have remained occasional and peripatetic.

2.3 *Iron Age* *(600BC-AD43)*

Finds or features of this period are not known in the immediate environs of the survey area. It is likely that the High Wealds' iron ore began to be exploited in this period.

2.4 *Roman* *(AD43-c.450)*

Finds or features of this period are not known in the immediate environs of the survey area. The High Weald remained predominantly wooded during this period and may have been used predominantly as rough pasture and exploited as a source of timber and iron ore.

2.5 *Anglo-Saxon* *(c.450-1066)*

Finds or features of this period are not known in the immediate environs of the survey area. The High Weald remained predominantly wooded throughout this period although in the early part of the Anglo Saxon period some woodland clearance for dispersed pastoral farming probably occurred. The later part of this period saw larger estates form and the parochial and manorial system evolve.

2.6 *Medieval* *(1066-1500)*

The area remained largely wooded and shifted ownership a large number of times. Roger Ashburnham built Scotney Castle in the valley of the River Bewl c.1378-80. The castle had curtain walls and four circular corner towers. It is unclear whether the original castle configuration consisted of a central courtyard surrounded by ranges of rooms constructed against the curtain walls, or a freestanding structure within the walls. Little of the 14th century castle is extant, only the bases of the gatehouse and the southeastern tower remain. A deer park is known to have existed to the northwest of the Castle.

2.7 *Post-Medieval* *(1500-1900)*

The Darrell family owned the estate for *c.*350 years from the late 15th / early 16th centuries. They rebuilt the south wing of the castle *c.*1580 and in *c.*1640 a three-storey east range was constructed. In 1778 Edward Hussey bought the estate and in the 1830s Edward Hussey's grandson, another Edward, commissioned Anthony Salvin to design a modern Victorian country house in an Elizabethan style. The house, now Grade 1 listed, was built on a terrace 25 metres above, and *c.*400m northwest of the Old Castle. The new house was constructed from sandstone quarried from the slope below. The remains of the quarry and an area surrounding the Old Castle were formed into gardens designed in the Picturesque style by William Sawrey Gilpin. The old castle was selectively ruined at this time to create a dramatic focal point for the garden.

2.8 ***Modern*** *(1900-present)*

The area of within the moat was designated as a Scheduled Ancient Monument (SAM 24400) in 1933 and the remains of the old castle are a Listed Building (143204 Grade 1). The gardens are of national importance and are included on the English Heritage Register of Historic Parks and Gardens (Grade 1) and the Kent County Council Register of Historic Parks and Gardens. Edward Hussey III's grandson Christopher inherited Scotney in 1952. On his death in 1970 the gardens and estate were left to the National Trust.

3. Aims, Methods and Report Presentation

3.1 *Aims*

The aims of the survey were:

- To determine the presence/absence of subsurface structural/garden features.
- To define the spatial extent of any archaeological features present.
- To attempt interpretation of the form and function of any archaeological features.

3.2 *Methods*

The methods adopted for the survey were:

- Detailed twin probe resistance survey using a Geoscan RM15 of all suitable parts of the designated survey area within 20m survey grids with mobile probes set at 0.5m spacing and at a sample interval of 1.0m along traverses spaced 1.0m apart.
- Detailed magnetometer survey using a Bartington Grad 601-2 of all suitable parts of the designated survey area within 20m survey grids at a sample interval of 0.25m along traverses spaced 1.0m apart.

3.3 *Standards*

The work conformed to the relevant sections of the Institute of Archaeologists' *Standard & Guidance Notes* (IFA 2001) and *Code of Conduct* (IFA 2000a) and to the relevant sections of MORPHE (EH 2006). The work also conformed to the relevant sections of ASC's own *Operations Manual,* to English Heritage geophysical survey guidelines (EH 2008) and to IFA geophysical survey guidelines (Gaffney *et al* 2002). Data collected during the geophysical survey was treated and archived in accordance with Archaeology Data Service guidelines (Richards and Robinson 2000, Schmidt 2002).

3.4 *Report Presentation*

3.4.1 A general site location plan incorporating the 1:25,000 Ordnance Survey mapping is presented in Figure 1. Figure 2 (1:2500) shows the site and relative position survey blocks. The greyscale data and accompanying interpretations are presented in Figures 3 to 12 at a scale of 1:500. XY trace plots (1:500) of the unprocessed "raw" gradiometer data are presented in Appendix 6.

3.4.2 Comprehensive technical details on the underlying principles of magnetic survey, general geophysical survey methodology and interpretative terminology used are presented in Appendix 2. Details on data processing methods used and display parameters are presented in Appendix 3. Survey location information is presented in Appendix 4 and the composition of the archive described in Appendix 5.

3.4.3 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 ASC staff.

4. Results and Discussion

4.1 *Resistance Survey*

4.1.1 Block 1

A curvilinear high resistance response is apparent at **RA** and may identify part of the foundation of a corner tower of the castle. A large amorphous area of high resistance (**RB**) is present immediately west of proposed tower foundation **RA** and suggests the location of structural remains or demolition debris. Data processing has allowed definition of discrete high resistance anomalies within the broader area, however, the presence of in-situ foundations remains uncertain. Four northnorthwest-southsoutheast aligned linear/rectilinear areas (**RC**) of slightly higher resistance responses run parallel and *c.*5m southwest of the demolished northeastern curtain wall. It is tentatively suggested that **RC** could locate the remains of a range of buildings attached to the curtain wall. A high resistance response at **RD** may identify buried remnants of a metalled pathway running between the entrance to the garden and a doorway in the northwestern garden wall. Alternatively, repeated footfall between the entrances may have compacted the deposits in this area and caused the high resistance response. Three high resistance responses are present beyond the northwestern elevation of the extant house. However, the constrained extent of this part of the survey limits their interpretative value and it is unclear whether they identify structural features.

4.1.2 Block 2

The footprint of a northwest-southeast aligned rectilinear building may be partly defined by L shaped high resistance response **RE**. Amorphous areas and diffuse alignments of high resistance are located northwest and northeast of **RE** and could locate further structural components of the building or spreads of debris resulting from its demolition. A linear north-south orientated low resistance response (**RF**) may identify the route of a drain associated with the proposed structure. The origin of low resistance response **RG** is unclear although its position correlates with a pathway to the boathouse marked on early editions of the Ordnance Survey mapping. An amorphous area of uniformly low resistance (**RH**) is located immediately north of wall **RE** and could define an area of sub-floor material retaining greater amounts of water than the surrounding deposits, or an area where water drainage is impeded by wall remains and compacted sub-floor material

4.1.3 Block 3

An area of high resistance response has a foci immediately east-northeast of the Henry Moore sculpture. The high resistance responses are somewhat amorphous although some linearity can be discerned within the processed data. It is tentatively suggested that the remains of a small structure, possibly a 19^{th} century garden feature, are present.

4.2 *Magnetometer Survey*

4.2.1 Introduction

Isolated dipolar anomalies ("iron spikes" – Appendix 1) are evident in all survey blocks. These "iron spike" anomalies are indicative of ferrous objects or other strongly magnetic materials incorporated into the topsoil/subsoil and are usually caused by modern cultural debris. On occasion, archaeological artefacts may cause them and significant clusters associated with other substantiating evidence may be included in the following discussion.

4.2.2 Block 1

The magnetic data is severely disturbed near the northwestern and northeastern elevations of the extant structure. The disturbance will have masked any weaker magnetic anomalies characteristic of cut and infilled archaeological features such as pits. Data processing has revealed two discrete, strongly dipolar anomalies adjacent to the northwestern end of the northeast facing elevation. The character of the two anomalies suggests the position of two large sub-surface ferrous objects. With the exception of two small areas of magnetic enhancement, which could locate cut and infilled archaeological features or heat affected areas; the magnetic background of the remainder of the garden at the northeast of the house is very uniform. This is surprising given the high resistance responses indicating the presence of sub-surface structural remains (Section 4.1.1) and the intensive use that this area will undoubtedly have been subject to during the life of the castle. It is suggested that reclamation of demolished material and some reduction of ground level may have occurred after the castle was selectively ruined during the 19th century.

4.2.3 Block 2

The magnetic background of this block is characterised as very disturbed. The disturbance is consistent with intensive use of this area during the medieval and post medieval periods and may indicate the presence of debris originating from demolition of the structural features identified by the resistance survey (Section 4.1.2). Magnetic anomalies directly correlated with the position of the proposed building are not identified, although four areas of magnetic enhancement **(MA)** located immediately southwest of the suggested structural remains could identify cut and infilled archaeological features associated with it.

4.2.3 Block 3

Discrete areas of magnetic disturbance and enhancement are present in this survey block. The areas of disturbance are characteristic of those caused by ferrous, or strongly thermoremanent objects, probably of relatively recent date. Conversely, the identified areas of enhancement could be caused by cut and infilled archaeological features, or by heat affected areas. However, the uncertain date of creation of this island, the random distribution of the enhanced areas, probable construction activity associated with structural remains tentatively identified from the resistance data (Section 4.1.3) and the presence of the Henry Moore sculpture suggest that the areas of enhancement result from relatively modern activity.

Figure 3. Greyscale plot of raw resistance data; Block 1

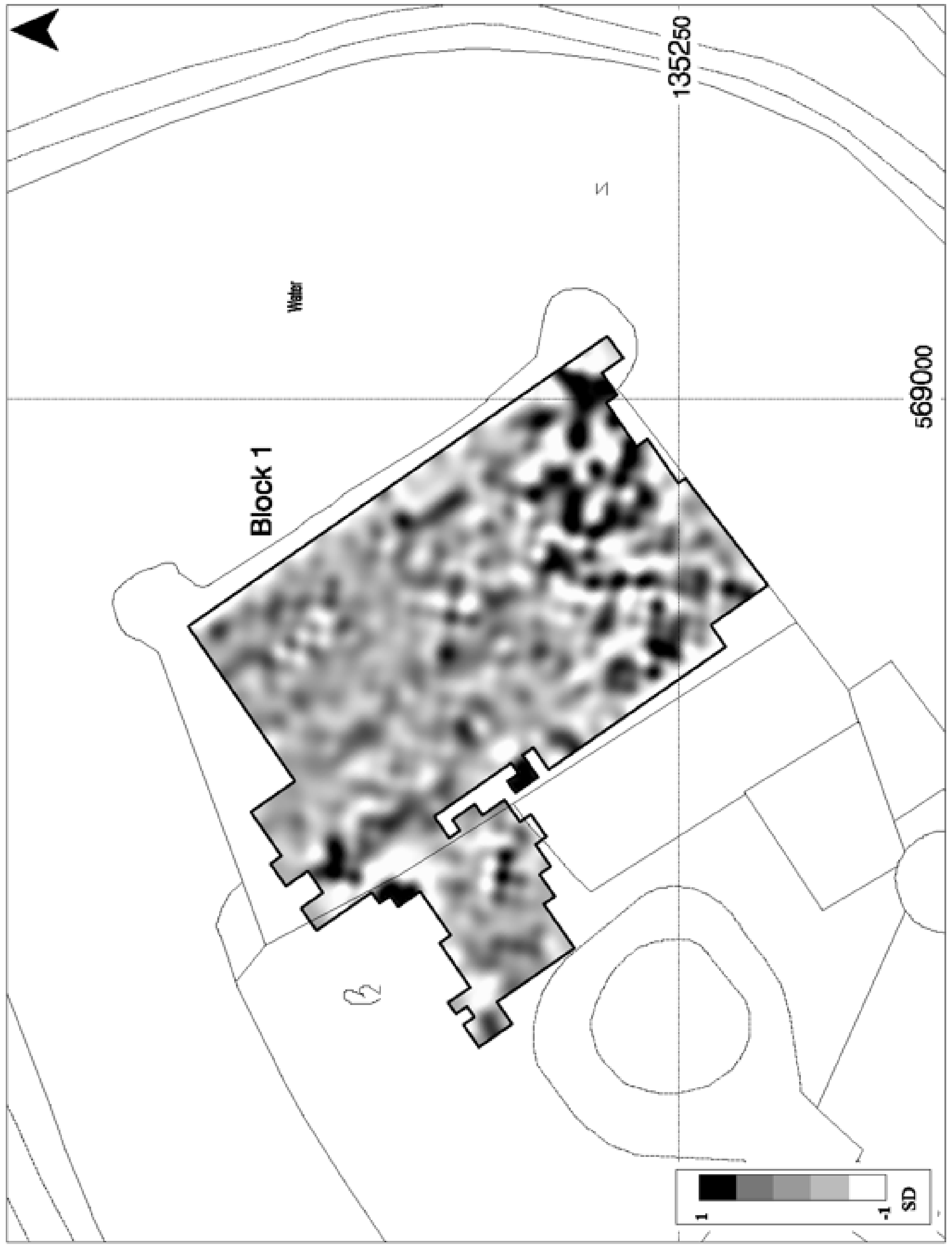

Figure 4. Greyscale plot of processed resistance data; Block 1

Figure 5. Greyscale plot of raw resistance data; Blocks 2 and 3

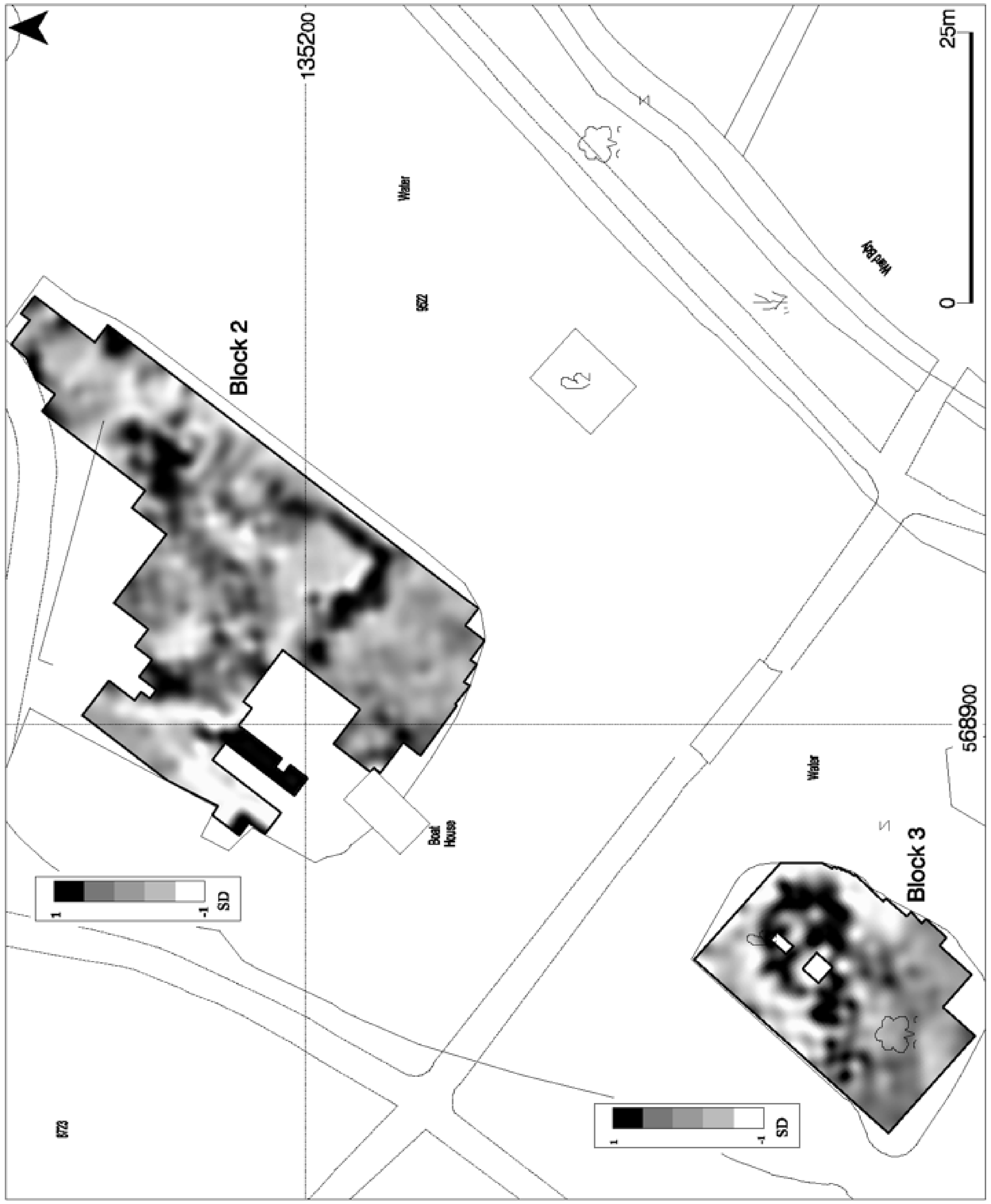

Figure 6. Greyscale plot of processed resistance data; Blocks 2 and 3

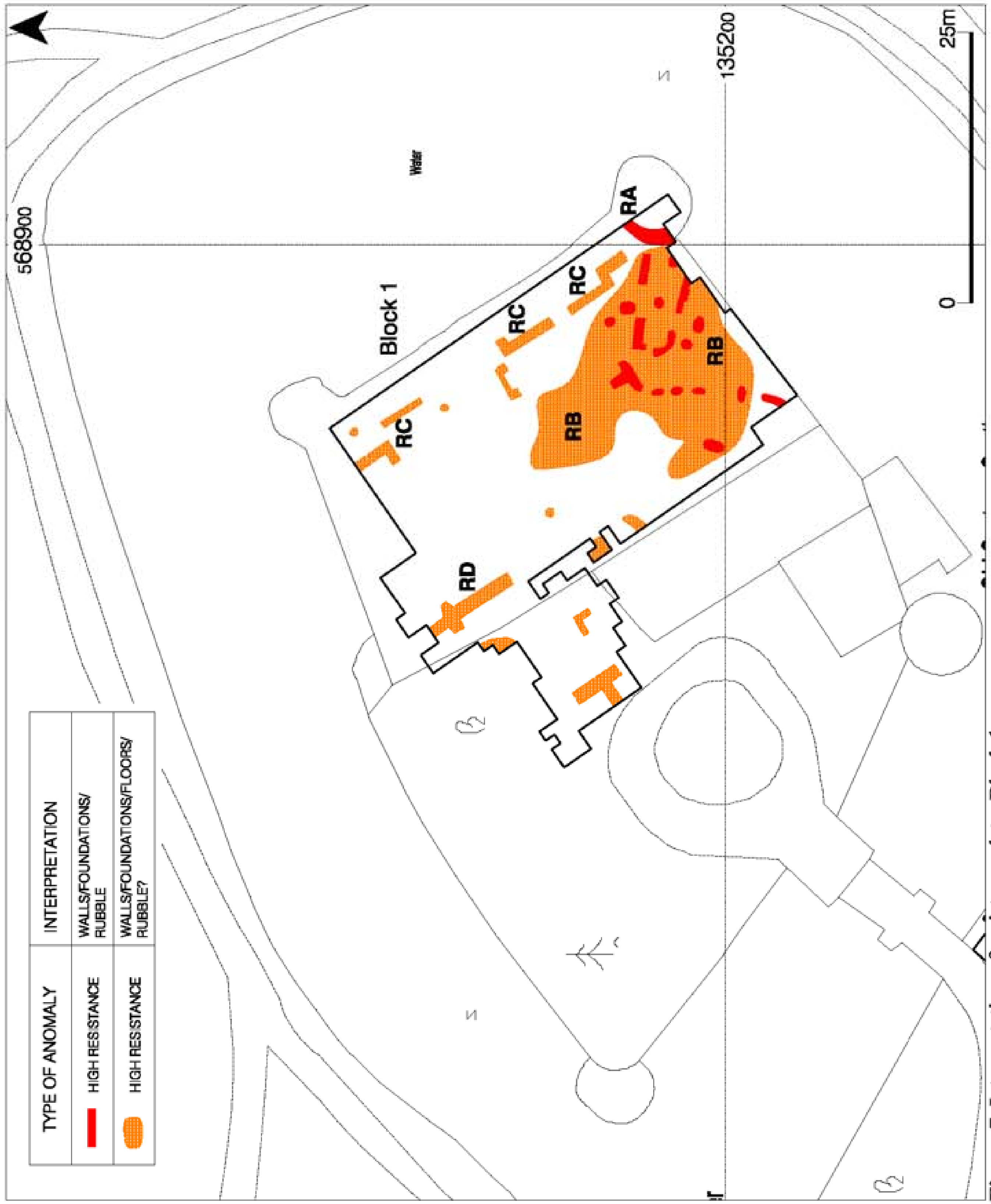

Figure 7. Interpretation of resistance data; Block 1

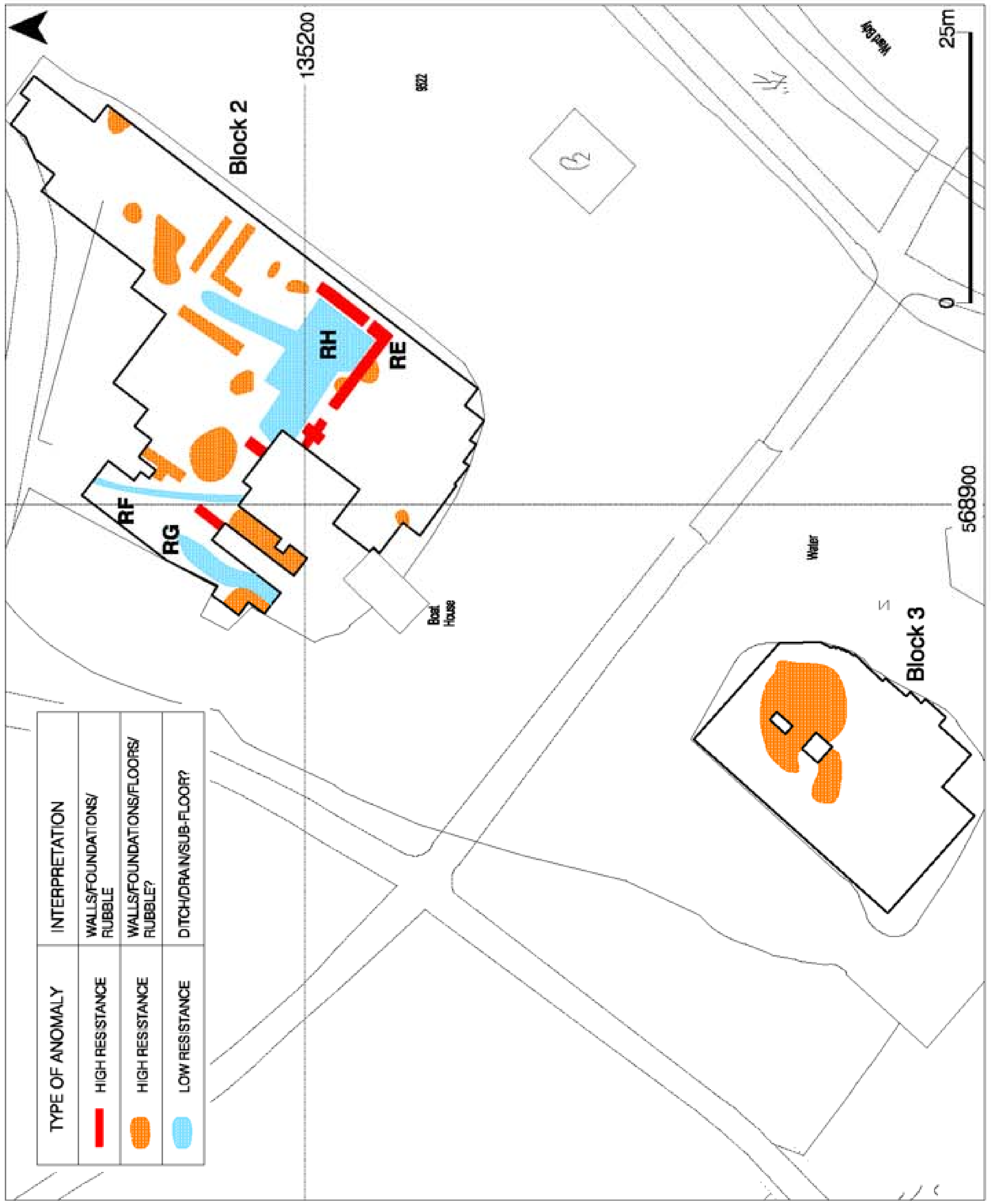

Figure 8. Interpretation of resistance data; Blocks 2 and 3

Figure 9. Greyscale plot of gradiometer data; Blocks 1 and 2

Figure 10. Interpretation of gradiometer data; Blocks 1 and 2

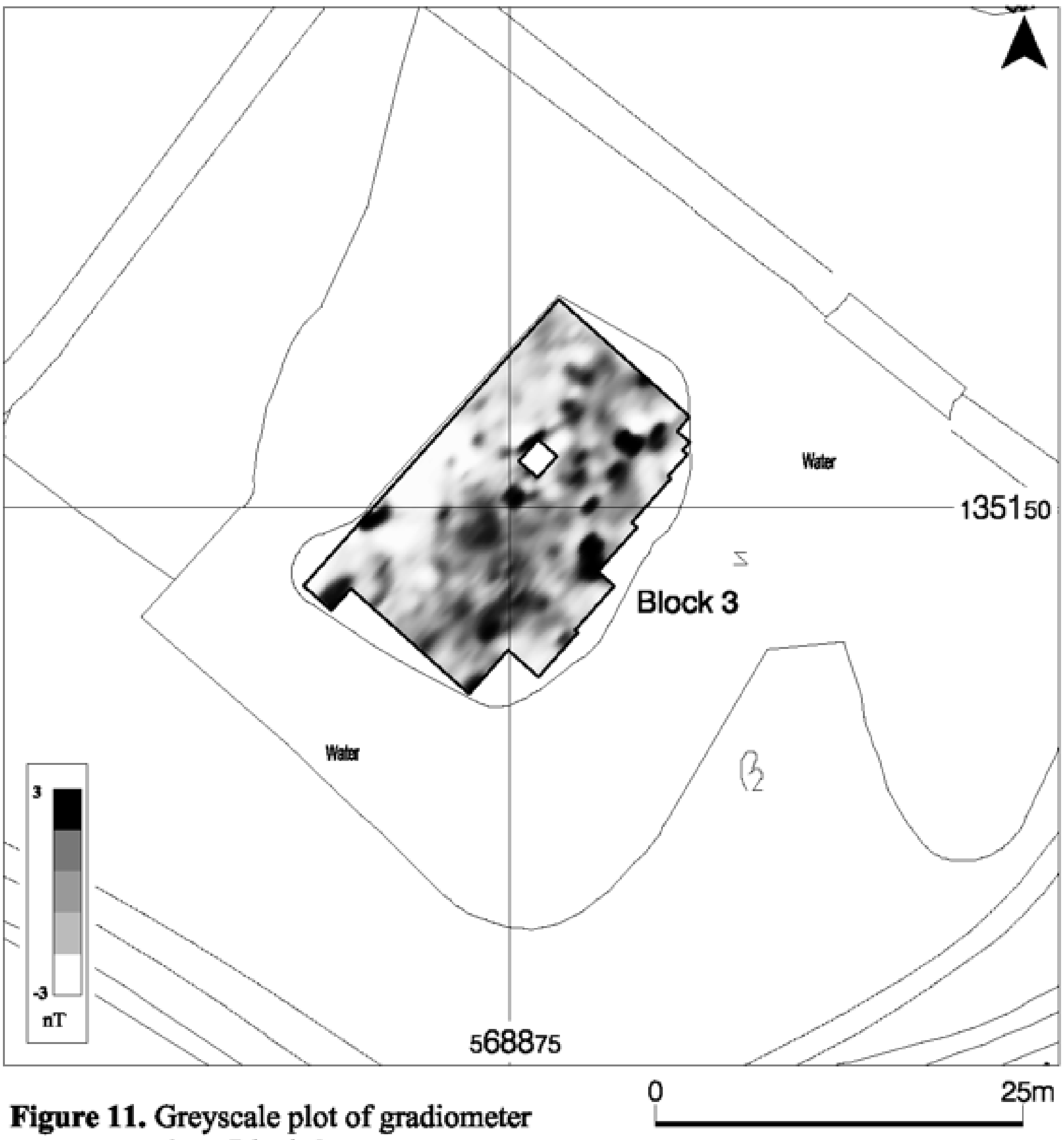

Figure 11. Greyscale plot of gradiometer data; Block 3

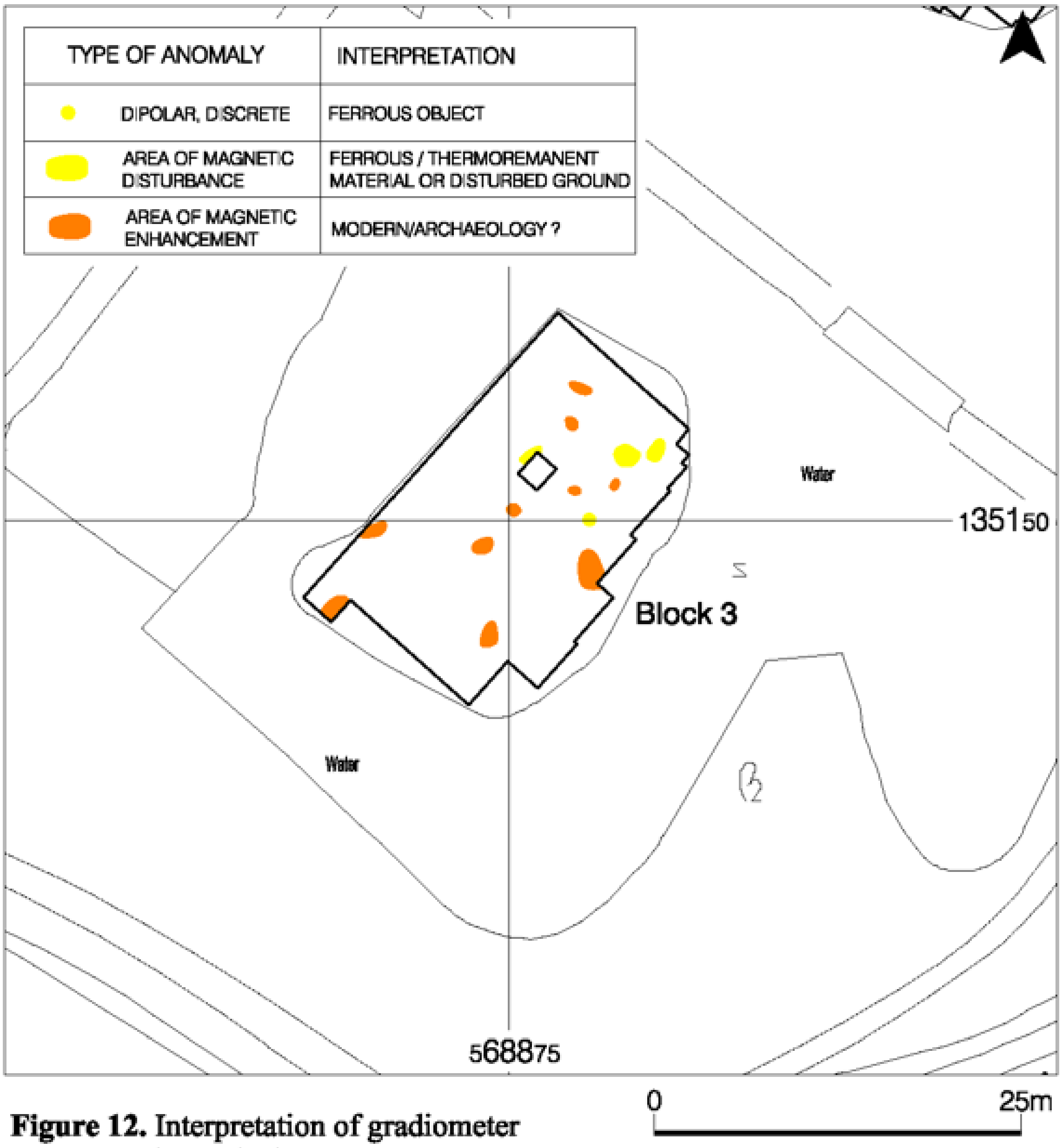

Figure 12. Interpretation of gradiometer data; Block 3

5. Conclusions

5.1 The geophysical surveys have located anomalous responses consistent with intensive use and the presence of sub-surface structural remains on all three islands. The structural remains identified on the two northerly islands are more confidently interpreted as being associated with the medieval/post medieval castle.

5.2 A section of foundation of the northeastern corner tower, a building or spread of demolition rubble located immediately west of the tower, and tentatively identified structural remains that could identify the remnants of a range of buildings attached to the northeastern curtain wall (Block 1), are interpreted from the resistance data collected at the rear of the extant buildings. An area surveyed beyond the northwestern elevation of the extant building also contains high resistance responses that may indicate the presence of sub-surface structural features. However, the constrained area surveyed makes definitive interpretation difficult.

5.3 Sub-surface remnants of a possible rectilinear ancillary building have been located by the resistance survey of the central island (Block 2).

5.4 The resistance survey has also identified the position of a possible structure located on the small southern island (Block 3). Its date and function is unclear, although its setting and limited size may suggest that it was a late post medieval garden feature.

5.5 The results of the magnetometer survey support the findings of the resistance survey and enable more holistic interpretation. For example, the magnetic background of the southern and central islands is disturbed, which is consistent with the presence of buildings and rubble originating from their demolition. The magnetic data collected within the garden at the rear of the extant castle buildings could indicate that the debris from the 19th century partial demolition was comprehensively removed and that some ground reduction may have occurred.

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.

6. References

Standards & Specifications

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Walker, K. 1990: *Guidelines for the preparation of excavation archives for long-term storage.* United Kingdom Institute for Conservation, Archaeology Section (London).

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Soil Survey 1983 *1:250,000 soil map of England and Wales, and accompanying legend* (Harpenden).

7. Acknowledgements

ASC is grateful to Ron Humphrey of *Archaeology South East* for commissioning this work on behalf of *The National Trust*. The Section 42 Licence was granted by Judith Roebuck, *English Heritage Ancient Monuments Inspector (South East Region)*.

Fieldwork
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R Brown BSc

Report
A. Hancock

Graphics
A. Hancock

Appendix 1: Section 42 Licence

ENGLISH HERITAGE
SOUTH EAST REGION

Mr Alastair Hancock
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Letchworth House
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MILTON KEYNES
MK6 1NE

Direct Dial: 01483 252048
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Our ref: AA/51028/5

RECEIVED
18 AUG 2008

14 August 2008

Dear Mr Hancock

Ancient Monuments and Archaeological Areas Act 1979 (as amended) section 42 - licence to carry out a geophysical survey

SCOTNEY CASTLE, HASTINGS ROAD, LAMBERHURST, TUNBRIDGE WELLS, KENT
Case No:SL00000344
National Monument no: 24400

I refer to your application to carry out a geophysical survey at the above site, as made in your letter dated 12 August 2008.

English Heritage is empowered to grant licences for such activity and I can confirm that we are prepared to do so as set out below.

By virtue of powers contained in section 42 of the 1979 Ancient Monuments and Archaeological Areas Act (as amended by the National Heritage Act 1983) English Heritage hereby grants permission for geophysical survey of SCOTNEY CASTLE, for the areas shown on the map that accompanied your application (copy attached). This permission is subject to the following conditions.

1. The permission shall only be exercised by Mr Alastair Hancock or nominated representative and by no other person. It is not transferable to another individual.

2. The permission shall commence on 25 August 2008 and shall cease to have effect on 5 September 2008.

3. A full report summarising the results of the survey and their interpretation shall be sent to Judith Roebuck and to Paul Linford of the English Heritage Geophysics Team at Fort Cumberland (Fort Cumberland Road, Eastney, Portsmouth, Hampshire, PO4 9LD), no later than 1 month after the completion

POSITIVE ABOUT DISABLED PEOPLE

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ENGLISH HERITAGE

SOUTH EAST REGION

of the survey.

You are also asked to complete and return the enclosed questionnaire about the survey to the Geophysics Team, Fort Cumberland (address as above), in order to assist with maintenance of our national database of geophysical surveys.

This letter does not carry any consent or approval required under any enactment, bye-law, order or regulation other than section 42 of the 1979 Act (as amended).

You are advised that the person nominated under this licence to carry out the activity should keep a copy of this licence in their possession in case they should be challenged whilst on site.

Yours sincerely

Judith Roebuck
Inspector of Ancient Monuments
E-mail: judith.roebuck@english-heritage.org.uk

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English Heritage is subject to the Freedom of Information Act. All information held by the organisation will be accessible in response to a Freedom of Information request, unless one of the exemptions in the Act applies.

Appendix 2: Technical Information:

Magnetic Susceptibility and Soil Magnetism

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haematite. These minerals have a weak, measurable magnetic property termed ***magnetic susceptibility***. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms. These effects are often observable by measuring the magnetic susceptibility of the topsoil, which can enable identification of areas where human occupation or settlement has occurred by virtue of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently fills features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is a contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of the surrounding matrix, i.e. topsoils, subsoils and rocks, into which these features have been cut that causes the most recognisable archaeological responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. Less magnetic material such as masonry or plastic service pipes that intrude into the topsoil may give a negative magnetic response relative to the background level.

An alternative method of enhancement to the magnetic properties of soil or archaeological features is through sustained heating. This can lead to the detection of features such as hearths, kilns or burnt areas through thermoremanent magnetism.

Magnetometer Survey: Classification of Magnetic Anomalies

In the majority of instances magnetic anomalies are termed ***'positive'***. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as ***'negative'*** anomalies that, conversely, means that the response is negative relative to the mean magnetic background. Such negative anomalies are often very faint and are commonly caused by modern, non-ferrous, features such as plastic water pipes. Infilled natural features may also appear as negative anomalies on some geologies.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies that are interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories which are used in the graphical interpretation of the magnetic data:

Isolated dipolar anomalies (iron spikes)

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

Areas of magnetic disturbance

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. This type of anomaly is characterised by very strong, 'spiky' variations in the magnetic background. A modern origin is usually assumed unless there is other supporting information.

Linear trend

This is usually a weak or broad linear anomaly of unknown cause or date. An agricultural origin, either ploughing or land drains is a common cause.

Areas of magnetic enhancement/positive isolated anomalies

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response (sometimes only visible on an X–Y trace plot) on two or three successive traverses. In neither instance is there the intense dipolar response characteristic of an area of magnetic disturbance or of an 'iron spike' (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post holes or by kilns, with the latter often being characterised by a strong, positive double peak response. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

Linear and curvilinear magnetic enhancement

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

Resistance Survey

The equipment used to carry out this type of survey measures and records resistance values, this method is often referred to as *resistivity* survey although calculation of the apparent resistivity of the subsurface is rarely carried out and most archaeological surveys employing this method should more properly be called *resistance* surveys.

The resistance of the subsurface is almost entirely dependent upon the amount and distribution of moisture incorporated within it. Masonry or stones, for example, are usually less porous and possess higher resistance than clay subsoils or organic rich fills of archaeological ditches or pits.

The success of resistance survey and correct interpretation of the results is dependent on a complex set of factors including the interaction of the composition and geometry of archaeological features, the geology, the electrode configuration used and climatic variations. E.g. surveys of this type are rarely at their most successful if carried out during extended periods of dry or wet weather.

For any given area resistance survey is more time consuming than the magnetic methods; the equipment is more cumbersome, climatic and site conditions are more critical, and data interpretation usually more complex. The efficacy of this technique for locating and defining building foundations and masonry features, and the previously outlined factors favour its use as a site investigation rather than prospection technique.

Although other probe configurations may be employed, usual survey procedure will utilise a Geoscan RM15 resistance meter in 0.5m twin probe configuration which will be set to take automatic readings at predetermined points, typically at (a maximum) 1m interval, 1m apart on zig-zag traverses within 20m by 20m square grids. These readings are stored in the memory of the instrument until exported to computer for processing and interpretation.

Appendix 3: Data Processing and Presentation:

Data processing filtering has not been applied to the data sets unless otherwise stated. Data has been interpolated for presentation unless otherwise stated. The processing steps specific to each data set and the presentation parameters are listed below.

Resistance

Block 1

Raw Data

Clip 22 to 80 ohm
Despiked: Threshold 2.5. Window 3 x 3, Mean

Processed Data

Clip -1 to 1 SD
High Pass Filter: Gaussian. Window 6 x6
Despiked: Threshold 1.5. Window size 3 x 3

Block 2

Raw Data

Despiked: Threshold 2. Window 3 x 3. Mean
Clip 25 to 90 ohm

Processed Data

High Pass Filter: Gaussian. Window 21 x 21
Clip -1 to 1 SD

Block 3

Raw Data

Despiked: Threshold 1.5. Window 3 x 3. Mean
Clip 32 to 280 ohm

Processed Data

Clip -1 to 1 SD
High Pass Filter: Uniform. Window 10 x 10.
Despiked: Threshold 2. Window 3 x 3. Mean

Gradiometer

Block 1

Processed Data

Clip -6 to 6 nT
High Pass Filter: Uniform, Window 10 x 10.
Despiked: Threshold 1. Window 8 x 10. Mean

Block 2

Processed Data

Despiked: Threshold 2. Window 6 x 2. Mean
Clip -6 to 30 nT

Block 3

Processed Data

Clip -4 to 4 nT
Destripe Mean Traverse: All grids. Threshold 2.5 SD’s

Appendix 4: Survey Location Information

1. The geophysical survey blocks were established by triangulation using the tape and offset method.

2. The survey grids were tied into permanent landscape features using a Pentax R-326EX total station and the tie in survey data was superimposed onto an Ordnance Survey digital map base. Overall there was a good correlation between the tie in survey and the digital map base and it is estimated that the average 'best fit' error is better than ±1m.

ASC Ltd cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party or for the removal of any of the survey reference points.

Appendix 5: Geophysical Archive

1. The geophysical archive comprises:-

   - an archive disk containing compressed (WinZip 8) files of the raw data, plot meshes and composites, report text (Word 2000), and graphics files (Tiff and Dwg) files.
   - a copy of the project design (where applicable) and the final report

2. A project archive is maintained by ASC Ltd although it is anticipated that it may eventually be lodged with the Archaeology Data Service (ADS). A copy of the survey report is submitted to the relevant Historic Environment Record and the digital archive is also provided on request. Details of the survey may be forwarded for inclusion on the English Heritage Geophysical Survey Database.

Appendix 6: XY Trace Plots of Raw Gradiometer Data (1:500)

Figure 13. XY trace plot of raw gradiometer data; Blocks 1 and 2

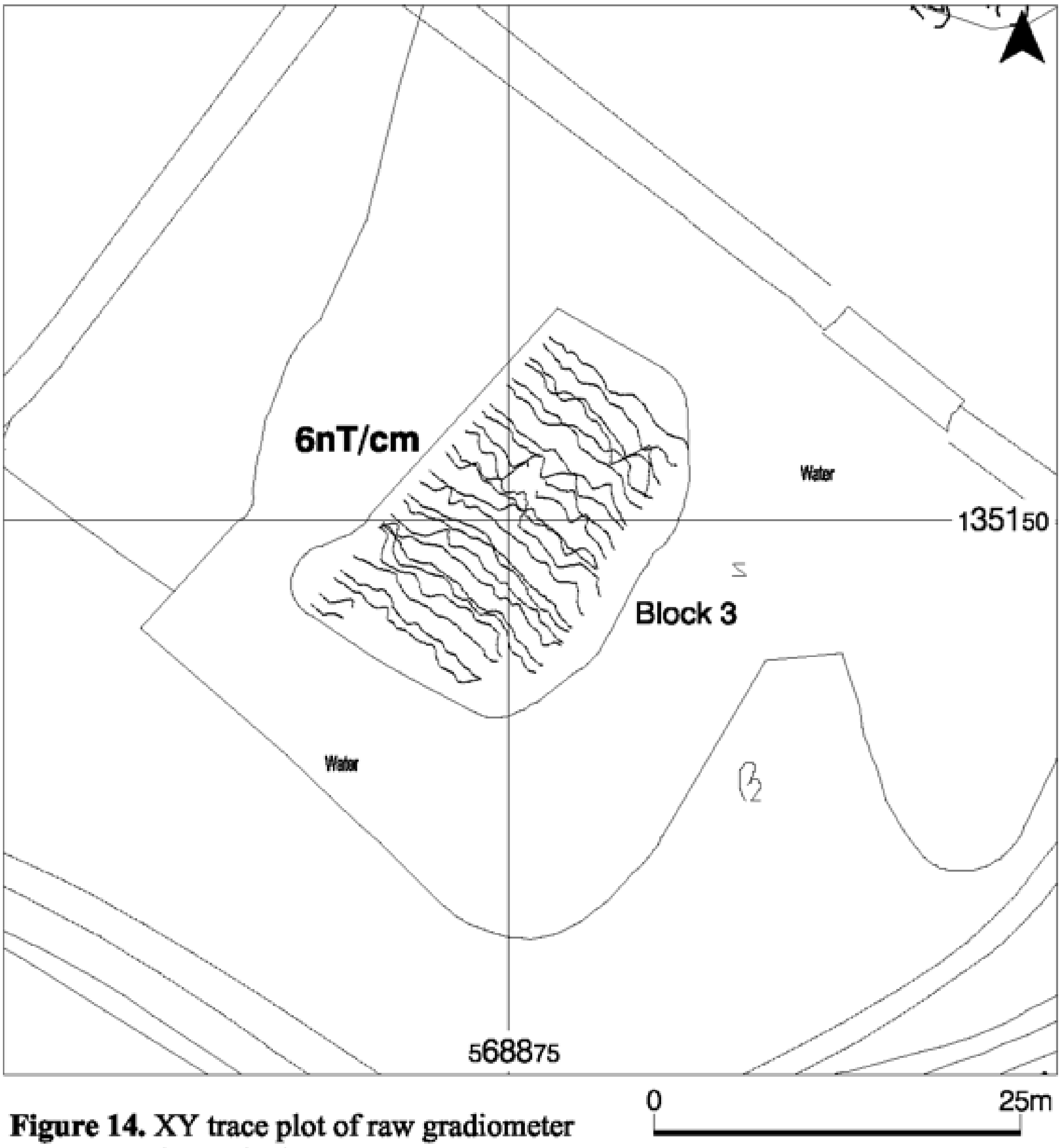

Figure 14. XY trace plot of raw gradiometer data; Block 3

Appendix 7: ASC OASIS Form

PROJECT DETAILS			
Project Name:	Geophysical Survey: Old Scotney Castle, Nr Lamberhurst, Kent		
Short Description:	*Geophysical survey (0.25 hectares of detailed resistance and magnetometry) was carried out by ASC Ltd on three islands within The National Trusts' Scotney Castle Estate. The resistance survey suggests that sub-surface structural remains are present on all three islands although medieval/post medieval structural features associated with the old castle and its outbuildings are more confidently identified on the two islands at the north of the survey area. The magnetometer survey has supported the results of the resistance survey and allowed a more holistic interpretation.*		
Project Type:	Resistance and Magnetometer Survey		
Site status: (eg. none, SAM, Listed)	SAM, Listed	Previous work: (eg. SMR refs)	yes
Current land use:	National Trust Estate	Future work: (yes / no / unknown)	unknown
Monument type:	Castle	Monument period:	Med/Post Med
Significant finds: (artefact type & period)	na		
PROJECT LOCATION			
County:	Kent	OS reference: (to at least 8 figures)	TQ 568900 135200 (site centre)
Site address: (with postcode if known)	The National Trust Scotney Castle Lamberhurst Tunbridge Wells Kent, TN3 8JN		
Study area: (sq. m. or ha)	c.0.5 ha	Height OD: (metres)	c.40m
PROJECT CREATORS			
Organisation:	Archaeological Services & Consultancy Ltd		
Project brief originator:	na	Project design originator:	A Hancock
Project Manager:	A. Hancock	Director/Supervisor:	A. Hancock
Sponsor / funding body:	National Trust		
PROJECT DATE			
Start date:	15/08/08	End date:	05/09/08
PROJECT ARCHIVES			
	Location (Accession no.)	Content (eg. pottery, animal bone, files/sheets)	
Physical:	None	None	
Paper:	ASC Ltd	Fieldwork report and Project Design	
Digital:	ASC Ltd	Report text, geophysical data, illustrations, basemap	
BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title:	Geophysical Survey: Old Scotney Castle, Nr Lamberhurst, Kent		
Serial title & volume:	ASC Ltd Report ref. 1101/SCK/02		
Author(s):	A J Hancock		
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