Archaeology South-East

ASE

RESULTS FROM AN INTEGRATED GEOPHYSICAL SURVEY AT SALTWOOD CASTLE, KENT

NGR: TR 616105 135970

ASE Project No: 3661

ASE Report No. 2009071

OASIS ID: archaeol6-59032

By Chris Russel BA (Hons)

April 2009

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Abstract

Archaeology South East was commissioned by Dr Peter Rumley to under take a detailed fluxgate gradiometer and resistance survey at Saltwood Castle, Kent as part of the as part of the ongoing management scheme for the castle. The survey area covered 0.63 hectares and took place between the 8th of April and the 17th of April 2009. The outer bailey was a mix of short grass, trees and longer grass. Both techniques were successful and several anomalies of a possible archaeological origin were identified. The resistance survey identified anomalies of a possible structural nature in the inner bailey whilst the magnetometry survey identified an area of possible pits in the outer bailey.

CONTENTS

(Please note that figures 5 and 6 are included on C.D at the end of this report)

1.0 INTRODUCTION

1.1 Site Background

1.1.1 Archaeology South-East was commissioned by Dr Peter Rumley on behalf of The Hon Mrs Jane Clark to conduct fluxgate gradiometer and resistivity surveys on land at Saltwood Castle, in Saltwood, Kent hitherto referred to as 'the site' (NGR TR 616105 135970; Figure 1). Saltwood Castle is designated as a Scheduled Monument (No KE 73).

1.2 Geology and Topography

1.2.1 The geology of the site consists of Pleistocene Head Deposits and Upper Chalk (British Geological Survey: Sheets 305/306). The site is situated atop sloping ground close to Saltwood village in Kent. The castle itself is surrounded by a deep moat and is constructed on an artificial mound.

1.3 Planning Background

The survey was undertaken as part of the overall management scheme for the site.

1.4 Aims of Geophysical Investigation

1.4.1 The purpose of the geophysical survey was to detect any buried archaeological anomalies that might provide either a measurable magnetic response or a measurable resistivity response to inform the overall management scheme. The site specific survey objective was to answer the following questions,

- Are there any features potentially pre-dating the use of the site as a castle?
- Are there any anomalies potentially relating to sub-surface structural remains?
- Are there any features which potentially post-date the use of the castle?

Scope of Report

1.5.1 The scope of this report is to report on the findings of the survey with a view to contributing to the overall and ongoing management of the archaeology of Saltwood Castle. The project was conducted by Chris Russel and Lesley Davidson with the assistance of Peter Rumley, project managed by Neil Griffin (fieldwork) and by Dan Swift (post fieldwork).

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Documentary sources (Clark. 1975.pp 9-20) reveal that Saltwood Castle's earliest phases date back to the early Saxon period and that the buildings there were given to the church in 1026.

2.2 There was a major building program undertaken by Archbishop Courtenay in the 14th century and the castle reverted back to the Crown in 1540.

2.3 The castle was heavily damaged by an earthquake in 1580 and subsequently declined in importance. It eventually was used to keep livestock until renovations in the 19th and 20th centuries brought the castle to its present state (Clark. 1975.pp 9-20).

2.4 There are several extant buildings within the survey most of which relate to the medieval development of the castle. The inner bailey contains a swimming pool and buildings relating to management of the grounds and the construction of these may have impacted on potential archaeological remains in this area. The outer bailey contains garages and greenhouses which may have similarly impacted on the archaeological resource.

3.0 SURVEY METHODOLOGY

3.1 Summary of Methodology

3.1.1 A Bartington Grad 601-2 fluxgate gradiometer was used to survey an area of 0.63 hectares. The survey grid was set out using a differential GPS (Global Positioning Systems). A 30 metre grid was set out across the survey area and transects were walked every meter across these grids. Samples for the magnetometry survey were taken at 0.25m intervals along each transect. Using the same 30m grid a RM15 resistance meter attached to a PA1 twin probe frame with 0.5m probe separation was used to record sample readings every metre.

3.2 Geophysical Survey Methods Used

3.2.1 The resistivity survey and magnetometry survey was undertaken in the areas depicted in Figures 2 to 4.

3.2.2 Clay type geologies will normally provide a poor-average result for magnetic survey techniques however sand geologies generally respond well to magnetic prospection techniques (David 1995: 10; Gaffney & Gater 2003: 79). A 100% detailed area survey is the desirable strategy for any given area of land and has the potential to provide the best possible information on all types of feature including those where no significant occupation may have occurred. The fluxgate gradiometer method of magnetic detail survey was chosen as this instrumentation perfectly balances speed with quality of data collection. In addition to this the resistance survey was undertaken as it was deemed that the technique may yield complementary results. The survey grid consisted of 30 x 30 metre grids. Each grid was surveyed with 1 metre traverses; samples were taken every 0.25m for the magnetometry survey and every 1.0m for the resistance survey. The survey was undertaken over the course of four days and the weather was a mixture of sunshine and heavy showers.

3.3 Applied Geophysical Instrumentation

3.3.1 The Fluxgate Gradiometer employed was the Bartington Instrumentation Grad 601-2. This consists of two separate Fluxgate Gradiometers joined to work as a pair. The Fluxgate Gradiometer is based around a pair of highly magnetic permeable cores made out of an alloy called ‘Mu-metal’. They are driven in and out of magnetic saturation by the solenoid effect of an alternating ‘drive current’ in the coils wrapped around them. Every time the coils come out of saturation external fields can enter them; this will cause an electrical pulse in the detector coil proportional to the field strength. Two cores are used, with the cores in opposite direction, so that the drive current has no net magnetic effect arising on the sensor coil (Clark 1996: 69). A single sensor is very sensitive to tilt which causes the amount of ambient field flux along its axis to change, which will then alter the reading. The problem is solved by using two sensors arranged as a gradiometer with one sensor subtracting the output of the other

(Clark 1996: 70). Before use the instrument is required to be 'balanced'. That is the fine tuning of the detector alignment that reduces direction sensitivity to a minimum. The Grad 601-2 has an internal memory and a data logger that store the survey data. This data is downloaded into a PC and is then processed in a suitable software package.

3.3.2 The Fluxgate Gradiometer is an efficient technique of archaeological prospecting (Gaffney et al 1991: 6). It is suitable for detecting ditches, walls, kilns, hearths and ovens. The Fluxgate Gradiometer will pick up areas of a magnetic field that differ from the 'background' magnetic field of the local geology. A zero point is set over a magnetically stable area of the site to be surveyed. This is termed as balancing. A cut feature such as a ditch will have a different magnetic field to the local geology therefore will elicit a greater response from the sensors. The response will be positive if the fill has a higher magnetic gradient than the surrounding soil. Areas of burning or a ceramic dump (e.g. collapsed tile roof) will have a drastically different magnetic field. Modern rubbish, concrete and other modern activity can have an adverse effect upon the sensors during magnetic survey. Buildings may not be readily detected unless there was a high proportion of brick/tile used in their construction.

3.3.3 The Fluxgate Gradiometer uses a NanoTesla (nT) as a unit of measurement. A Tesla is a unit of magnetic measurement. NanoTeslas must be used as the deviation of the magnetic field due to buried archaeology can be very small. The Earths background magnetic field is in the region of 48000 nT.

3.3.4 The Fluxgate Gradiometer, in common with almost all geophysical techniques, is better at detecting archaeological sites from the Late Prehistoric period onwards. It should always be borne in mind that earlier periods of prehistory that have had less impact upon the landscape (e.g. in the form of significant boundaries, structures etc.) may not be detected by most geophysical techniques.

3.3.5 The resistance survey was carried out using a twin probe array fitted with a Geoscan RM15 data logger. The twin probe array is popular within archaeology and combines convenience with ease of use. The two probes of the array had 0.5m spacing and were connected to two remote probes placed at least thirty times this distance from the array (15m). This is done to lessen the effect on the results of probe separation and to improve depth penetration (Clark 1996: 44). The penetration of the survey will be dependant on the probe spacing, usually reaching a depth relative to half the probe space, in this case 0.25m.

3.3.6 The resistance survey uses an electric current to measure the relative water content of buried features. Features such as pits and ditches will contain looser material than the surrounding geology and will have an enhanced water bearing capacity allowing the current to pass through them more freely. These will be measured as low resistance anomalies on the results. Stone and brick wall foundations will prove a barrier to the electrical current and will be shown as higher resistance anomalies (Gaffney&Gater 2003: 26). Resistance survey relies on detecting differences in water content between archaeological features and the surrounding geology and will be ineffective in waterlogged or highly arid conditions. Resistance surveys are measured in ohms per metre.

3.4 Instrumentation Used for Setting out the Survey Grid

3.4.1 It is vitally important for the survey grid to be accurately set out. The English Heritage guidelines (David 1995) state that no one corner of any given survey grid square should have more than a few centimetres of error. The survey grid for the site was set out using a Leica TCRA 1205 total station. The grid points were then geo-referenced using a Leica System 1200 Differential Global Positioning System (DGPS). The GPS base station collects satellite position to determine its position. This data is processed in survey specific software to provide a sub centimetre Ordnance Survey position and height for the base station. The survey grid is then tied in to this known accurate position by using a roving satellite receiver that has its position corrected by the static base station. Each surveyed grid point has an Ordnance Survey position; therefore the geophysical survey can be directly referenced to the Ordnance Survey National Grid.

3.5 Data Processing

3.5.1 All of the geophysical data processing was carried out using Geoplot V3 published by Geoscan Research. Data processing must be done to the raw survey data to produce a meaningful representation of the results so that they can then be further interpreted. However it is important that the data is not processed too much. Data processing should not replace poor field work. The Fluxgate Gradiometer data has had four stages of processing applied to it. Due to the very high positive readings of some of the magnetic disturbance the values were replaced with a dummy value so as to avoid detrimentally affecting the dataset when further processed. The first process carried out upon the data was to CLIP it. CLIP can be used to limit data to specified maximum and minimum values for improving graphical presentation. It also has the effect of removing some of the ‘iron spikes’ that occur with fluxgate gradiometer survey data. ZERO MEAN TRAVERSE was then applied to survey data. This removes stripe effects within grids and ensures that the survey grid edges match. Next DESPIKE was applied to the data set which removes the remaining random ‘iron spikes’ that occur within fluxgate gradiometer survey data. LOW PASS FILTER was then applied to the data. LOW PASS FILTER removes high frequency minor scale spatial detail. This is particularly useful for smoothing data or for enhancing larger weak features. INTERPOLATE smoothes the data by creating extra data points based upon collected values. INTERPOLATE was carried out upon the survey data in both the X and the Y axis. INTERPOLATE improves the data presentation. This was all the processing that was applied to the survey data. Figures 2&4 display the processed survey data.

3.5.2 The resistance data was also processed using Geoplot V3 as described above. The first step was to EDGEMATCH the results to remove any inconsistencies between individual grid squares. The results were then DESPIKED to remove any spurious readings. The next step was to pass the results through a HIGH PASS FILTER which removed any low frequency spatial data and then a LOW PASS FILTER was applied removing high frequency spatial data and enhancing larger weak features. As with the magnetometry results the data was then INTERPOLATED in both the X and Y axes improving the data presentation.

4.0 GEOPHYSICAL SURVEY RESULTS (Figures 2-6)

4.1 Description of Site

4.1.1 The area surveyed concentrated on the inner and outer baileys of Saltwood Castle and the survey comprised a roughly crescent-shaped area around the present residence.

4.1.2 The vegetation within the survey area consisted of short grass in the inner bailey with some hedges and shrubs bordering the lawn. The outer bailey contained localised areas of grass lawn close to the residence alongside closely planted fruit trees closer to the southern bailey walls. The area in front of the gatehouse contained longer grass, flowering plants and widely spaced mature trees.

4.2 Survey Limitations

4.2.1 There were few barriers to the geophysical survey but those that existed are listed below and were omitted from the survey.

4.2.2 A large portion of the southern inner bailey contained structures or the remains of structures which were either too constricted or too disturbed to provide valuable survey data. The inner bailey is also surrounded by a defensive wall and the ground occupied by this could not be surveyed. These areas were omitted from the survey.

4.2.3 The southern part of the outer bailey contained fruit trees, some of which were too closely planted to allow much of this area to be surveyed. The outer bailey also contained garages and paved paths on its periphery which were also omitted. An area of kitchen gardens containing greenhouses and vegetable plots exists in the northern part of the inner bailey and was unable to be surveyed.

4.2.4 A driveway of tarmac and gravel runs from the entrance of the castle around to the rear of the residence. Areas of this were surveyed during the magnetometry survey but the majority was omitted.

4.2.5 There is a pond to the immediate north west of the residence; this also omitted from the survey.

4.3 Introduction to results

4.3.1 The results should be read in conjunction with the figures at the end of this report. The types of features likely to be identified are discussed below.

4.3.2 *Positive Magnetic Anomalies*
Positive anomalies generally represent cut features that have been infilled with magnetically enhanced material.

4.3.3 *Negative Magnetic anomalies*

Negative anomalies generally represent buried features such a banks that have a lower magnetic signature in comparison to the background geology

4.3.4 *Magnetic Disturbance*
Magnetic disturbance is generally associated with interference caused by modern ferrous features such as fences and service pipes or cables.

4.3.5 *Dipolar Anomalies*
Dipolar anomalies are positive anomalies with an associated negative response. These anomalies are usually associated with discreet ferrous objects or may represent buried kilns or ovens.

4.3.6 *Bipolar Anomalies*
Bipolar anomalies consist of alternating responses of positive and negative magnetic signatures. Interpretation will depend on the strength of these responses; modern pipelines and cables typically produce strong bipolar responses.

4.3.7 *Positive Resistance Anomalies*
These are areas where the current from the array has passed less easily due to relative scarcity of water content. They may relate to stone or brick foundations or rubble in an archaeological context.

4.3.8 *Negative Resistance Anomalies*
These are areas where the current from the array has passed more easily due to relatively high water content. Low resistance anomalies may equate to pits or ditches in an archaeological context.

4.4 Interpretation of Fluxgate Gradiometer Results (Figures 2&3)

4.4.1 There were several anomalies with high magnetic signatures visible in the results. The highest concentration of these anomalies may be seen in the outer bailey. These anomalies are described below.

Magnetometry Results From The Inner Bailey

4.4.2 There is a weak positive anomaly seen running approximately northeast-southwest at M1. There is a hint of a north south adjunct to this anomaly noted in the figure. This may relate to a partially buried wall noted during the undertaking of the survey. The weakness of the magnetic signature suggests that if this feature is the wall noted it is of stone rather than brick construction.

4.4.3 Stronger positive anomalies are visible at M2 and M3. M2 is linear in nature with visible returns at each end and M3 is roughly circular in plan. The regular appearance of M2 suggests that this anomaly represents a buried wall or structural feature. There is also a possible correlation with features in the resistance survey, (HR20 and HR 21 discussed below) which adds weight to this interpretation. . M3 almost certainly relates to the grave of The Hon Alan Clark.

4.4.4 Other localised areas of high magnetic response may be seen at M4 and M7.M4 is associated with an area of magnetic disturbance shown at M15 and there is a strong probability that it results from that disturbance. M7 is localised and amorphous in nature and it is possible that the anomaly represents a pit or similar cut feature.

4.4.5 M5 and M6 represent a linear feature with alternating high and low magnetic responses much like a weak bipolar anomaly. This may represent a buried clay field drain or similar service conduit although an archaeological origin for the feature is still feasible. A strong bipolar anomaly may be seen at M14, this is a buried service cable and the magnetic disturbance seen at M13 is caused by the modern gravel driveway. It should be noted that the northern portion of the inner bailey shows a higher degree of background magnetic ‘noise’ than the southern portion suggesting that the ground in this area has been subject to a higher degree of disturbance.

Magnetometry Results From The Outer Bailey

4.4.6 Outside the inner bailey walls a cluster of high magnetic response anomalies can be seen at M8. These may represent pits or similar features of an archaeological origin. It should be noted that there were several small trees in this area and it is possible that the anomalies seen here are former tree boles or planting holes. Further south of M8 a linear high response anomaly is visible on the edge of the survey at M18. This relates to a partially buried wall still visible on the ground.

4.4.7 The area northeast of the existing residence contains a high concentration of discreet high magnetic response anomalies with associated low response features. The largest of these are noted at M11and M12. There is weak evidence that some of these anomalies form linear associations and these are noted at M9 and M10. There may be a weak linear positive response at M19 also. Scatters of high magnetic anomalies are further noted at M16 and M17. It is clear from the frequency of the magnetic anomalies in the area North-east of the gate house that this area has been subject to high degree of disturbance although the nature of this disturbance is unclear.

4.5 Interpretation of Resistance Survey Results (Figures 4-6)

4.5.1 In contrast to the results seen from the magnetometry survey the highest concentration of resistance anomalies is visible in the inner bailey. These anomalies are described below.

High Resistance Results From the Inner Bailey

4.5.2 Within the complex of results from the inner bailey it is possible to discern several rectilinear high resistance features. These may be seen at HR1, HR3, HR5, HR7, HR6, HR8 and HR9. HR1 and HR9 show the strongest high resistance signals and may represent in-situ wall foundations. HR5, HR6 and HR7 are weaker in response and may contain more deeply buried foundations. It is interesting to note that these apparent rectilinear features appear to align in a similar fashion and that this alignment appears to respect the gate house. The overlapping appearance may be the result of successive construction phases. Although these features are strongly suggestive of buried structures it is also possible that they represent garden features or other similar activities. Clark (1975:19) notes depictions of structures relating to animal husbandry during the castle's period of decline. It is possible that the anomalies here represent the remains of these structures.

4.5.3 Alongside these rectilinear features a linear high resistance feature is noted at HR2 and curvilinear moderate and high resistance features at HR10 and HR26. HR2 probably represents the remains of a wall which is discernable on the modern ground surface; the features seen at HR10 have a relatively weak high resistance signature and are indistinct making interpretation difficult. HR26 is in the region of 5 metres in diameter and is strongly suggestive of a buried circular or semi-circular structure. There is also a moderate high resistance linear anomaly running east-west at HR23.

4.5.4 Alongside these possible structures there are amorphous scatters of high resistance anomalies at HR20, HR21 and HR22. These may represent buried concentrations of buried rubble which remain from the castle's period of dereliction.

Low Resistance Results From the Inner Bailey

4.5.5 In addition to the high resistance features noted above the inner bailey contains visible areas of low resistance at LR1, LR2, LR3, LR5 and LR8. LR1 and LR3 are linear in character and may represent modern service trenches (LR3 appears to match the cable noted at M14 above). LR2 appears rectangular and regular in form although the exact origin of this feature is unclear. Similar features can be made out close to HR26 possibly representing ditches or robbed out walls. There are also areas of low background resistance at LR5 and in the regions of HR26 and HR21 that are probably the result of banking associated with garden landscaping.

High Resistance Results for the Outer Bailey

4.5.6 The outer bailey contains far fewer high resistance anomalies in comparison with the inner bailey. There is a possible linear high resistance feature at HR11 although this may represent a tumble of building rubble dating from the period of dereliction mentioned above.

4.5.7 A linear high resistance anomaly with a moderate signature may be observed at HR12 trending northeast-southwest. This appears to have two or more roughly north-south arms running from its southern side. HR12 may turn to run in a more northerly direction and finally terminate close to HR14, although becomes less distinct beyond the third north-south arm. The regular nature of this anomaly suggests a possible buried wall or similar structural feature. There is a further moderate high resistance anomaly in close association at HR24 although this is indistinct and may be the result of trees growing in this area.

4.5.8 Further east there may be seen a group of weak high resistance anomalies running north-south. This group consists of HR13, HR14, HR15, HR18 and HR19 and may be the result of soil movement along the bank in this area. HR16 and HR17 show discreet high resistance anomalies with associated moderate curvilinear high resistance signals. The origin of these anomalies is unclear. Further north at HR23 there is evidence for a square or rectangular enclosure formed on three sides by moderate positive linear anomalies.

4.5.9 In addition there is a further high resistance anomaly at HR27 which may be associated with the adjacent driveway and an area of mixed high and low resistance anomalies at HR25/LR7 close to the residence which may represent recent disturbance.

Low Resistance Results for the Outer Bailey

4.5.10 Low resistance anomalies in the outer bailey may be seen at LR6, LR4 and LR7. It is possible that LR6 and LR7 represent the same feature which appears to run into the existing gatehouse residence and may be a modern service feature. LR4 appears to run east west for a period before turning to run north-south. This anomaly appears to mirror the existing garden features and is probably related to these. It may also be noted that the area around HR24 shows a relatively low background resistance probably associated with the banking of earth present in this area.

5.0 CONCLUSION

5.1 Both the magnetometry and resistance surveys successfully revealed anomalies of possible archaeological origin. The resistivity results from the inner bailey contain anomalies strongly suggestive of buried structures whilst the magnetometry suggests possible cut features in the outer bailey. The use of local stone with a relatively similar magnetic signature to the surrounding geology as a building material might explain why the possible structures seen in the resistance results do not appear in the magnetometry.

5.2 The frequency of anomalies seen in the outer bailey contrasts with the evidence presented in this area on the resistivity results. This may be due to a lack of measurable moisture difference in this area. Heavy showers were encountered during the survey of this part of the site possibly leading to a degree of soil saturation and thus rendering any potential features undetectable to resistance survey methods.

5.2 There is a degree of correlation between the two sets of results. HR2 and M1 may represent the same feature and a similar correlation may be seen between M2 and HR20 strengthening the case for features at these locations.

5.3 Both sets of results hint that there has been a degree of subsoil disturbance on the bank in front of the gate house. The integrated survey found moderate to strong evidence for buried archaeology at Saltwood Castle and further archaeological exploration may provide definitive evidence for the origin of the anomalies described above.

5.4 Statement of Indemnity

5.4.1 Geophysical survey is the collection of data that relate to subtle variations in the form and nature of soil. Magnetic and resistance detail survey may not always detect sub-surface archaeological features. This is particularly true when considering earlier periods of human activity, for example those periods that are not characterised by sedentary social activity. These periods may include but are not necessarily restricted to the earlier Bronze Age, Neolithic, Mesolithic and Palaeolithic.

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OASIS Form

OASIS ID: archaeol6-59032

Project details

Project name	RESULTS FROM AN INTEGRATED GEOPHYSICAL SURVEY
Short description of the project	Resistance and Magnetometry survey
Project dates	Start: 08-04-2009 End: 17-04-2009
Previous/future work	Not known / Not known
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Residential 1 - General Residential
Monument type	CASTLE Medieval
Monument type	CASTLE Post Medieval
Monument type	RESIDENCE Modern
Significant Finds	GEOPHYSICAL ANOMALIES Uncertain
Investigation type	'Geophysical Survey'
Prompt	Conservation/ restoration
Solid geology	Unknown
Drift geology	Unknown
Techniques	Resistivity - area
Techniques	Magnetometry

Project location	
Country	England
Site location	KENT SHEPWAY HYTHE Saltwood Castle
Postcode	CT21 4QU
Study area	0.63 Hectares
Site coordinates	TR 616105 135970 50.8618058516 1.718136285540 50 51 42 N 001 43 05 E Point
Height OD / Depth	Min: 0m Max: 0m
Project creators	
Name of Organisation	Archaeology South East
Project brief originator	Private Client
Project design originator	Archaeology South-East
Project director/manager	Neil Griffin
Project supervisor	Chris Russel
Type of sponsor/funding body	Landowner
Project archives	
Physical Archive Exists?	No
Physical Archive recipient	n/a
Digital Archive Exists?	No
Paper Archive recipient	evaluation report
Paper Contents	'other'

Paper Media available	'Report'

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	RESULTS FROM AN INTEGRATED GEOPHYSICAL SURVEY
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Description	Geophysics report.

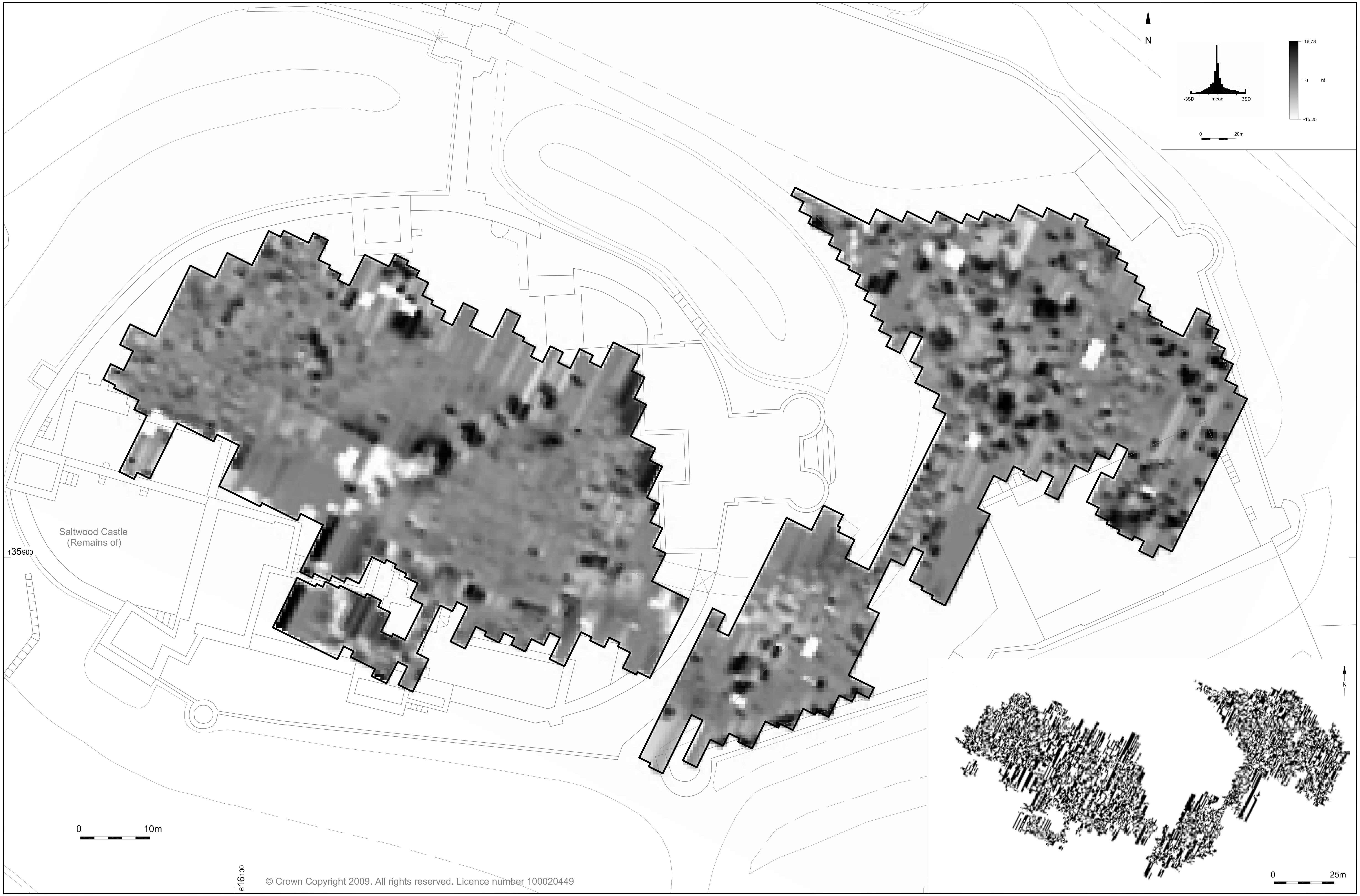
Entered by	Chris Russel (mrchris20042000@yahoo.co.uk)
Entered on	6 May 2009

Included on C.D

1. **Raw Magnetometry Data**

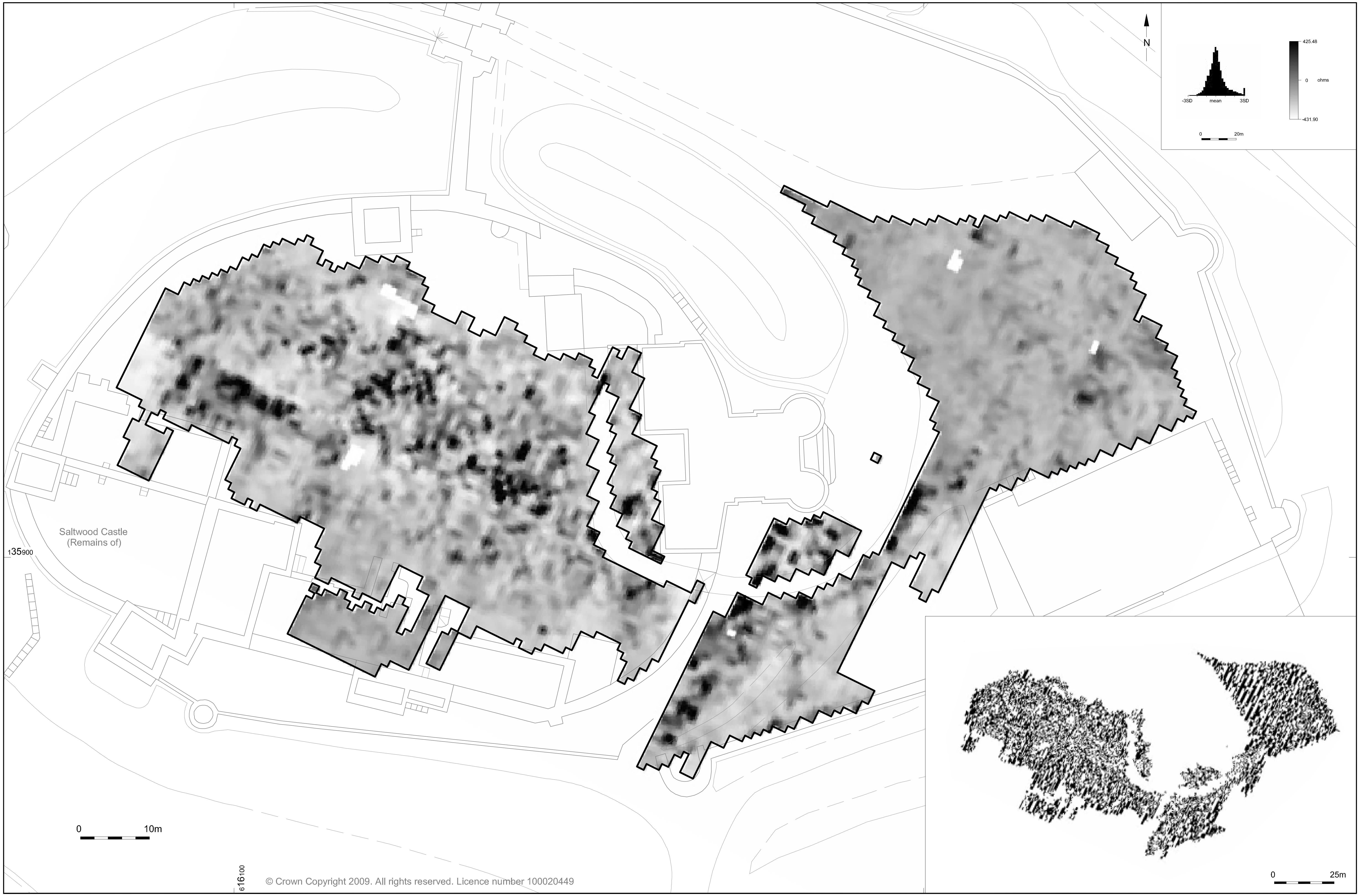
2. **Raw Resistivity Data**

© Archaeology South-East		Saltwood Castle	Fig. 1
Project Ref: 3661	April 2009	Site Location Plan	
Report Ref: 2009071	Drawn by: LD		



© Archaeology South-East		Saltwood Castle	Fig. 2
Project Ref: 3661	April 2009	Processed magnetometry data and trace plot	
Report Ref: 2009071	Drawn by: LD		

© Archaeology South-East		Saltwood Castle	Fig. 3
Project Ref: 3661	April 2009	Magnetometry survey anomalies	
Report Ref: 2009071	Drawn by: LD		



© **Archaeology South-East**		Saltwood Castle	Fig. 4
Project Ref: 3661	April 2009	Processed resistivity data and trace plot	
Report Ref: 2009071	Drawn by: LD		

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Project Ref: 3661	April 2009	Resistivity interpretation - high resistance	
Report Ref: 2009071	Drawn by: LD		

© Archaeology South-East		Saltwood Castle	Fig. 6
Project Ref: 3661	April 2009	Resistivity interpretation - low resistance	
Report Ref: 2009071	Drawn by: LD		

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