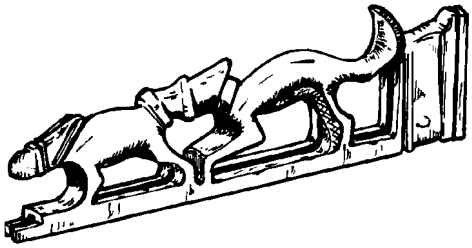
Ampthill & District Archaeological



& Local History Society

Geophysical Surveys of the area believed to be the site of Ampthill Castle in the County of Bedfordshire. TL026385.

Part 1. Earth resistance survey.
September 2002 & April 2003, Revised January 2011.
Kevan J. Fadden FSA, Michael J. B. Turner, Brian D. Lazelle.

P**art 2.** Magnetometer survey.
September 2010.
Clive Makin.

Part 3. Update November 2023.
Summary of Albion Archaeology Excavation July 2018
Kevan Fadden FSA.

Ampthill & District Archaeological

& Local History Society



In days of old, here in Ampthill's towers were seen,
The mournful refuge of an injured queen.
Here flowed her pure but unavailing tears
Here blinded zeal sustained her sinking years.
Yet freedom hence her radiant banner waved
And love avenged a realm by priests enslaved.
From Catherine's wrongs a nations bliss was spread
And Luther's light from Henrys lawless bed.

Horace Walpole

Part 1

Resistance Survey of the area believed to be the site of Ampthill Castle in the County of Bedfordshire
September 2002 & April 2003
Revised January 2011

TL026385

Legend & Brief History of Site

The site of Ampthill Castle is reputedly marked by Katharine's Cross, a Gothic style monument erected in 1773 by Lord Ossory in memory of Queen Katherine of Aragon who was imprisoned in the castle in 1533. The cross is said to have been placed in what remained of the castle ruins following a major re-landscaping of the park by Lancelot "Capability" Brown.

Immediately in the area of the cross is a platform, thought to mark the building, standing about 0.5m above the surrounding ground level which is effectively a large plateau of some 30,000 m^2, bordered on the north by the scarp slope of the Lower Greensand Ridge. A castle anywhere on the plateau would have provided commanding views of the countryside in all directions.

Mole hills and rabbit scrapes on the northern scarp slope regularly unearth oyster shells, bones, fragments of clay roof tiles and small shards of coarse unglazed pottery of 14th Century type.

Historical evidence suggests a castle was built in the 1420's on the site by Sir John Cornwall who had acquired the land following the death of Aymer Lord St. Amand in 1402.

Cornwall, created Lord Fanhope, died in 1443. In 1454 Lord Edmond Grey purchased the manor of Ampthill, including the castle and the park. Sir George Grey died at Ampthill Castle in 1503. In 1508 his son Richard, by that time in serious debt through gambling and bad management, forfeited Ampthill and the castle to Henry VII. After purchasing it in 1524 following a protracted legal argument, Henry VIII (ruling from 1509-1547) was frequently at Ampthill Castle throughout his reign.

In his survey of the Crown estates and castles c.1533 John Leland refers to a fine castle at Ampthill. However, in subsequent records, the term Manor House appears more frequently which may reflect the changes made over the ensuing years.

Edward VII (ruling from 1547-1553) had a hunting party at Ampthill Castle but appears to have stayed in the Stewards Lodge.

A survey of the manor house in 1553 showed it to be "sore decayed" with tiling, leading and glazing missing, roofs caving in, timber rotting and stone walls on the point of collapse.

A plan of an existing courtyard manor house, drawn in 1567, with proposed alterations and said to be from Ampthill is in the records of Hatfield House. The plan which has been redrawn to scale (Figure 3) by Colvin does not show the orientation of the building. The assumption is that this building, often referred to as a castle, is where Katherine of Aragon was imprisoned. Some parts of the building were being demolished at the time of the plan being drawn.

By 1653 the castle had been totally demolished.

The site is scheduled and is owned by Ampthill Town Council so it is of obvious interest to the local community. Its history together with any verifiable archaeological information could have an impact on the tourist potential of the Town.

The Ampthill & District Archaeological & Local History Society undertook a resistance survey of the Plateau in September - October 2002 and completed it in April 2003.

Military activities in the 19th Century and both World Wars when camps were established in the park could have an effect on the survey, as could 20th Century sports pitches and the well trodden footpaths which meander across the site.

Geophysical Survey

To obtain a "picture" of the effects of archaeological activity that may lay under the surface of the ground several techniques can be used. The most common include ground radar, magnetic variations and resistance. This survey was carried out using the resistance method.

Meter TR/CIA with a 0.5 metre twin probe configuration.
32679 Readings taken at one metre pitch.
Mainly sandy soil, taken in a dry spell following an earlier wet period.
The final readings 140X, to 160X, 160Y were taken the following spring.

Resistance surveys in simple terms rely on the moisture content of the soil allowing an electric current to flow between probes pushed into the ground. The higher the moisture content the lower resistance to flow. The resistance value (ohms) is then plotted on a computer to show the variation across the site. High readings (drier soil) show up in this survey as light, low readings (wet soil) show up as dark. From this it follows that ditches which have been buried but still contain humus infill and remain moist can be readily seen (dark) as opposed to areas of stone or brick rubble that are quicker to dry out showing up light.
It should be appreciated that similar effects can be caused by natural geological features in the soil; it seems probable that some of the features to the east of the plot can be attributed to variations in the underlying sandstone bedrock.
The whole site was laid out in a grid of 20 m squares and the location of certain intersections defined with respect to the two memorial crosses is shown in the Appendix.

The following report shows the results of that survey with a possible interpretation of the readings obtained. It should be stressed that as with all such surveys, it is impossible to be certain without an excavation to check the hypothesis.

Familiarisation and Interpretation of the Site.

The site roughly 260 m x 200 m can be described as a plateau on the top of a sandstone hill the north side defined by the scarp slope of the Lower Greensand Ridge. It has obviously been shaped to some extent by human activity. The countryside along the Ridge is undulating and no parallel exists for a similar plateau. Landscaping was carried out in the surrounding Park by Lancelot Brown in the 18th century, typically placing clumps of trees at strategic points to enhance the view from Park House in the valley to the north. To ease interpretation the X,Y co-ordinates of the original 20 m by 20 m survey grid are used.
The results of the resistance survey are shown in Figure 1. A plot of the resistance survey but without the grid annotation is shown in Figure 2. Specific features shown in the survey are discussed below.

It is probable that the dark "holes" in the square (above and to the right) of 120X,0Y on the survey show where trees have fallen or their stumps have been removed after felling.

The large white areas in squares 0X,60Y and 80X,160Y are where readings were impossible due to the position of Katherine Cross and the WW I. Ampthill Camp Memorial respectively. Other missed areas such as those in squares 120X,40Y and 120X,160Y were due to trees and bushes etc. preventing readings from being taken.

There are five major features on the very complex plot which need an explanation.

1) In the area bounded by the points 0X,40Y; 140X,60Y; 0X,120Y; 120X,140Y there is a large rectangular area defined by wide lines of low resistance which may represent ditches or a dry moat filled with a moisture retaining material. There appears to be an entrance on the south east corner. The ditch is up to 15 metres wide in places. Katherine's Cross is within this area as is most of the platform. It is where we expected to find the foundations of the castle. The buried earthwork certainly seems to suggest a small mediaeval castle or at least a defended house.

2) In the area 0X,140Y; 40X,120Y; 0X, 220Y; 60X,200Y dark and light lines running roughly east west can be seen, equally spaced apart. They are of similar spacing to mediaeval ridge and furrow recently identified in Kings Wood at a similar elevation 5 km to the east east also on the Greensand Ridge. Suggestions of similar ridge and furrow can be seen in certain conditions within the park but it is by no means certain.
The lines respect the outline of the moat which suggests they are contemporary or the moat was dug first.

3) In the area 0X,140Y; 40X,200Y; 80X,80Y; 100X,140Y a number of low resistance lines define a large rectangle cutting into the ridge and furrow (so post dates it) one set with a slightly obtuse angle in the North corner and a corresponding acute angle in the East. This reflects the shape of the plans drawn in 1567 complete with the unusual corner angles. (Figure 3). When drawn to the same scale as the plot the fit is remarkable, see Figure 4. This may well be the site of the courtyard manor or castle. Some of the lines of this rectangle could be attributed to a football pitch shown to be in the area on an aerial photograph taken in 1947. The reason for dark lines would be the repeated application of lime to mark out the pitch affecting the moisture retaining ability of the soil. (Gaffney & Gater 2003). Whilst the lines in question are rectilinear there are other lines with angles of about 96 degrees and 84 degrees which agree exactly with the angles of the building shown on the 1567 plan. It would seem sensible to build a large house on a relatively flat plateau which in later post-demolition years would be ideally suited for a football pitch. The result would be a palimpsest of features in the geophysics.
It should also be noted that a later rugby football pitch with a completely different alignment existed for many years within the area covered by the survey but left no trace at all even though a similar lime

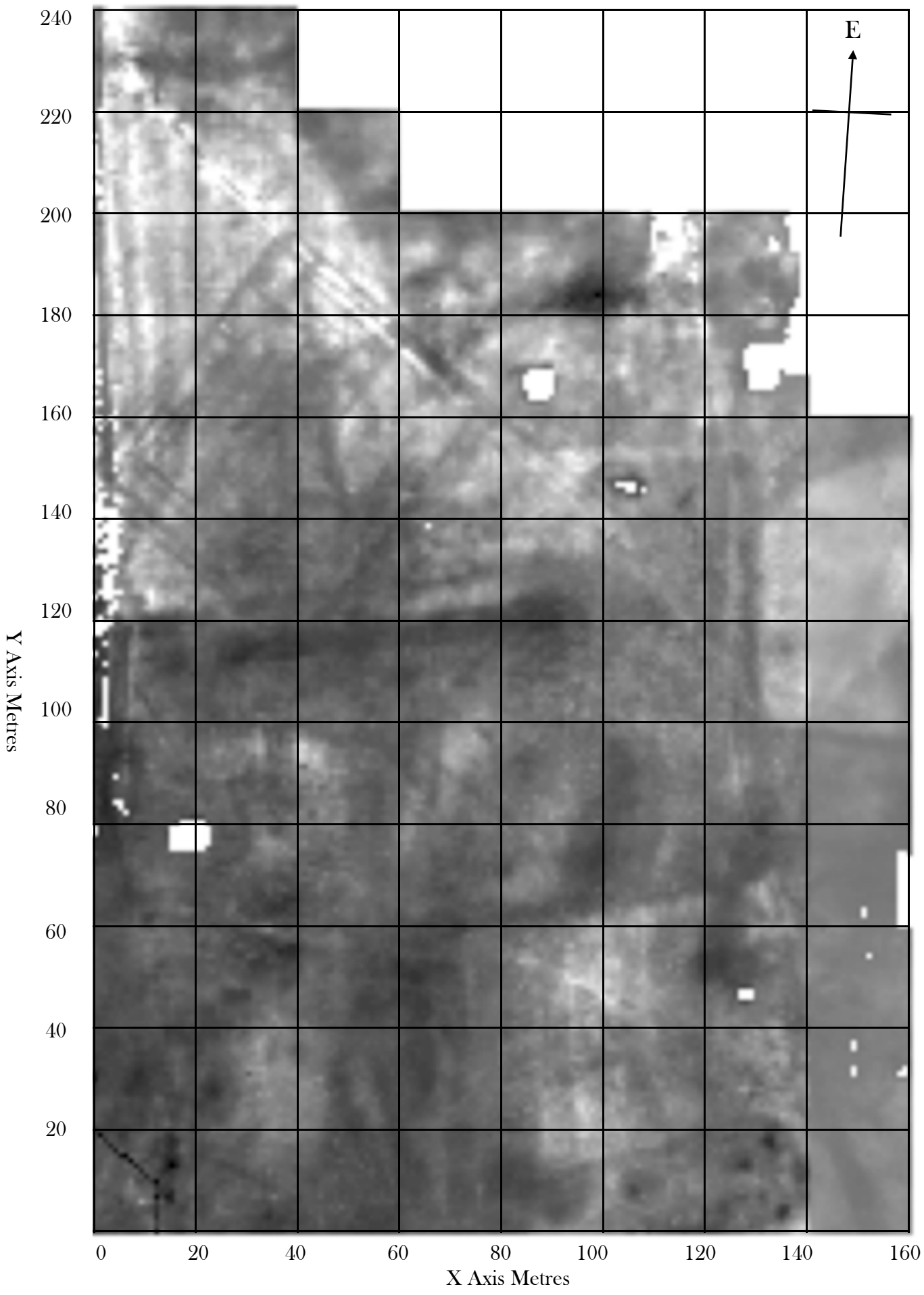


Figure 1: Results of the TR/Cia Resistance Survey

wash application was used. (Memories of local men who carried out the line maintenance of both pitches.)

The 1567 plans do not give their orientation, but if the above interpretation is correct it would appear that the gatehouse to the building faced south-west looking across rolling countryside away from the nearby town of Ampthill. In the front on the plan is shown a base court and further buildings, including stables. There is no sign in the geophysical plot of this base court in the position shown. This can be explained as a careful look at the original plans in the Cecil papers at Hatfield House show that the range of the building containing the wellhouse court and the stables section of the base court had probably been demolished prior to the 1567 survey. The single lines show where the parts of the building had been.

4) Within the area 80X,0Y; 140X,20Y; 80X,60Y; 140X,80Y a rectangle shows consistently high readings. It disturbs the line of the possible moat therefore post dating it. The higher readings could suggest a lining to a courtyard (say cobbles, rubble, gravel or deep sandy area).

5) Within 120X,80Y; 160X,80Y; 120X,160Y; 160X,160Y is another area with consistently high readings and indications of a ditch surrounding. At this point, the edge of the plateau gives way to a pronounced downward slope comprising very soft sand (checked by a probe). A little further to the south the hill has been recently cut away to construct the Town Cricket Pitch.
To the north of this area, there are signs of yet another rectangular area, this time bounded by high resistance lines. The site is obviously very complex and contains three rectangles of approximately the same size as the building shown on the 1567 survey plan.

Note: Other possible features can be seen with careful study, and may come to significance with further study of the historical evidence.

A topographical study of the area around Katherine's Cross carried out by the Bedfordshire County Council Heritage & Environment Section, to the same scale fits very well on to the plot and emphasises the changes in resistance on the platform.

If the site was to be investigated by archaeological excavation then we would recommend initial trenches at locations in the vicinity of 10X,150Y and 40X,110Y.

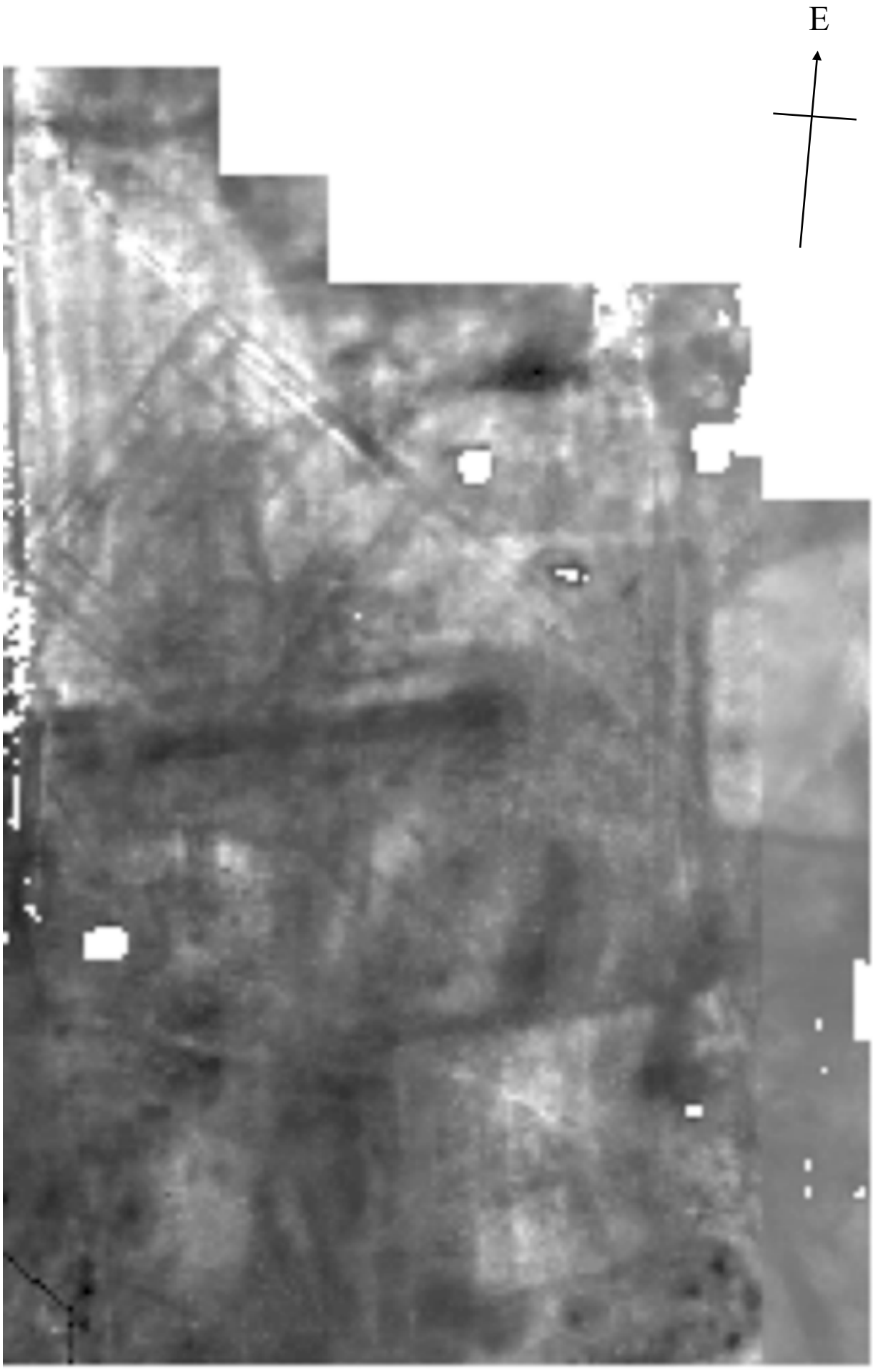


Figure 2: Results of the Resistance Survey
(Without grid annotations)

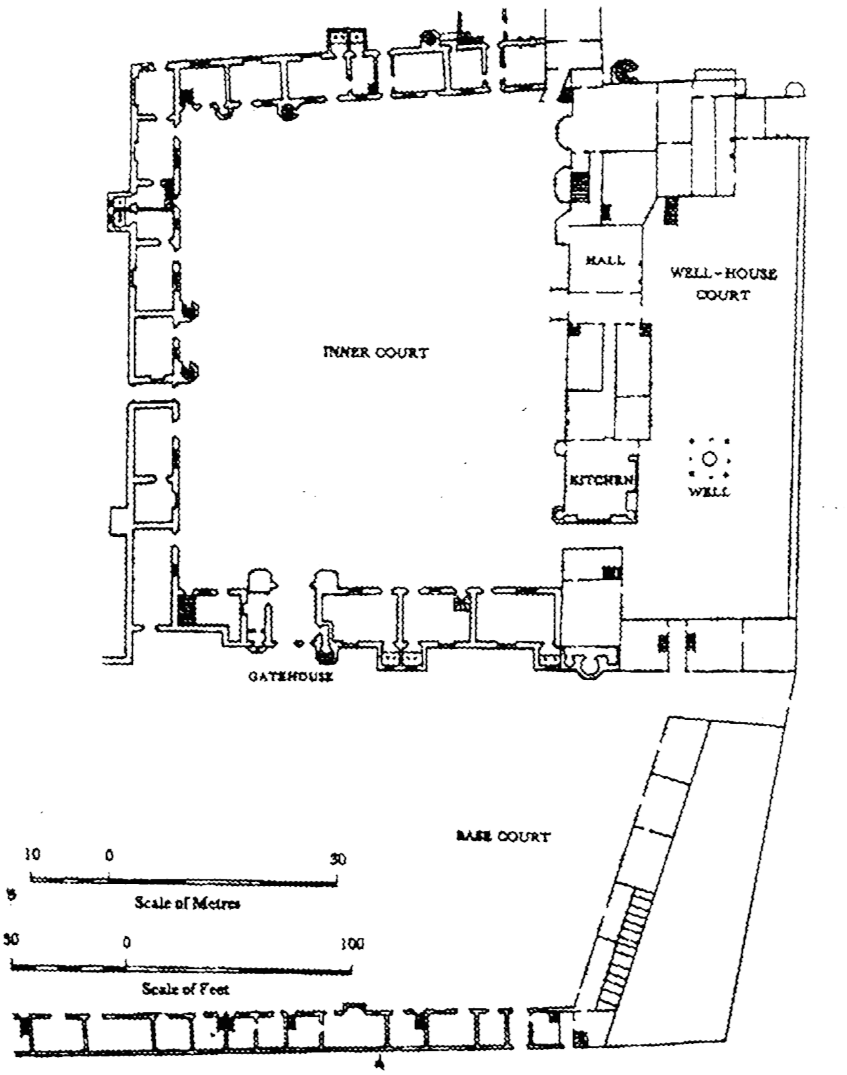


Fig. 3. Ampthill House, Bedfordshire, as surveyed *circa* 1567, with unexecuted propos (3A) for a new royal apartment and lodgings (redrawn from Hatfield House, CPM I.1.

Figure 3: Drawing as published in *The Kings Houses 1485-1660.* Rescaled to match the scale of the resistivity plot

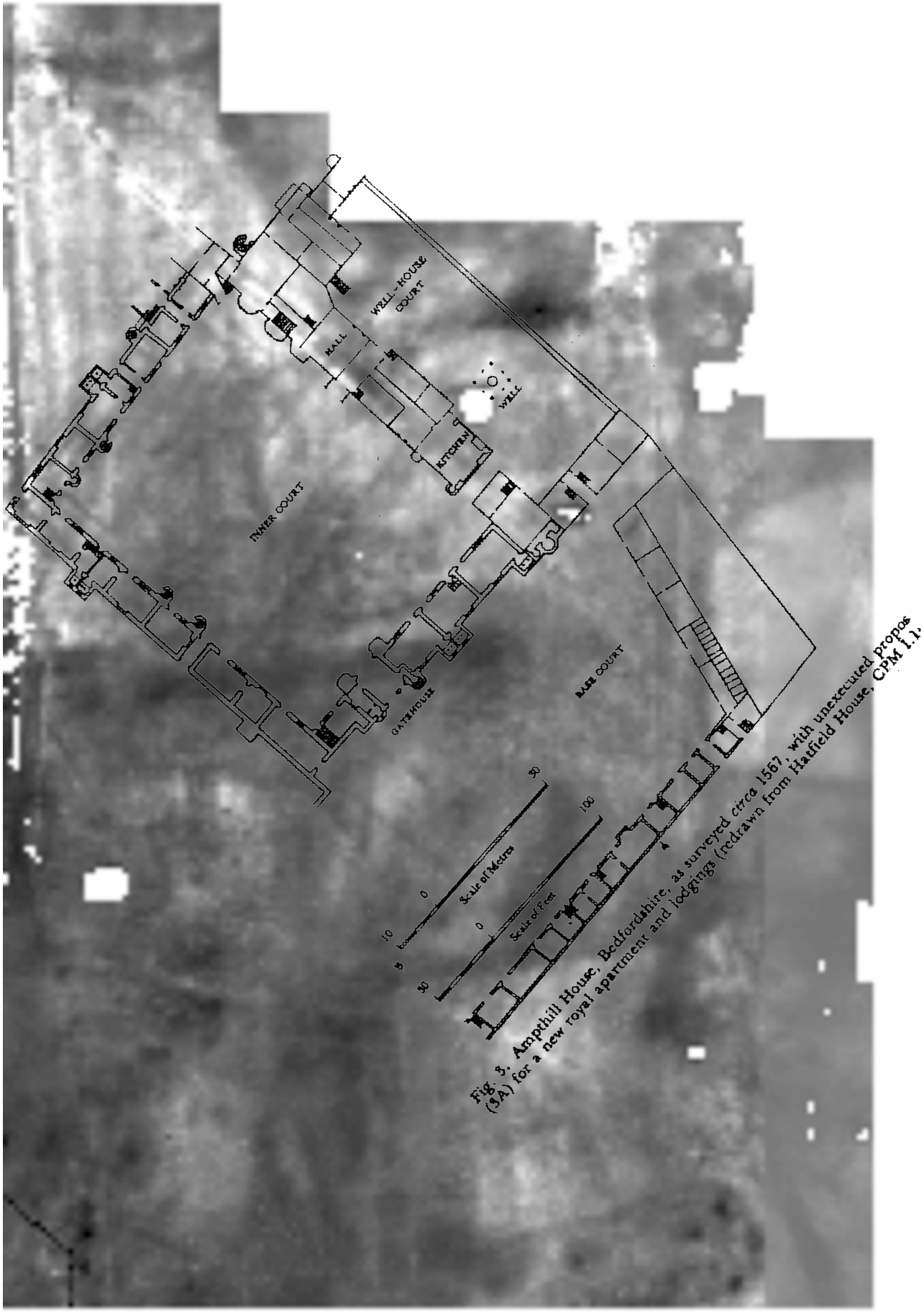


Figure 4: Resistivity Survey with circa 1567 drawing superimposed.

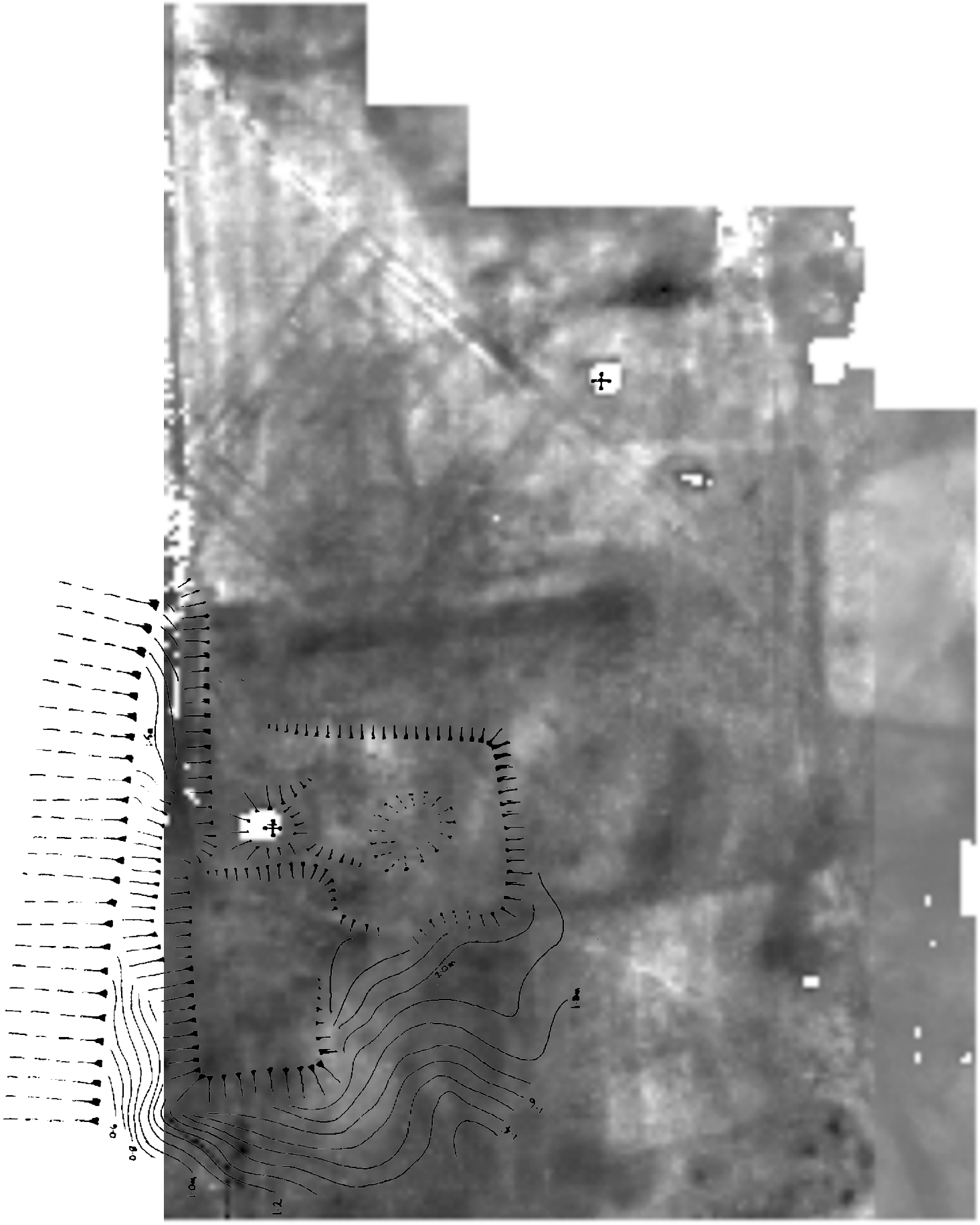


Figure 5: Resistance Survey with topographical survey of the platform superimposed

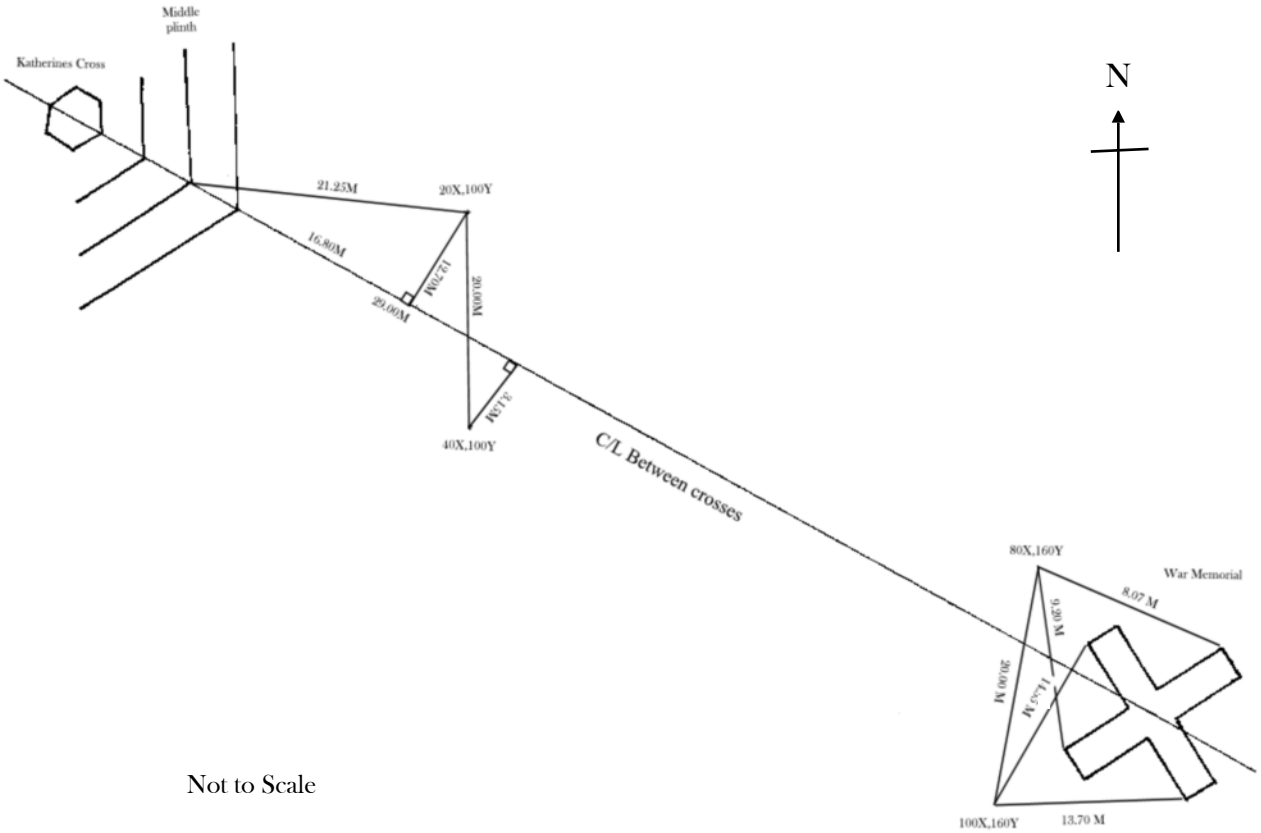
Appendix

Location of reference points for Ampthill Castle survey

On line joining the two crosses.
Measured from corner of middle plinth on Katherine Cross to perpendicular to ref point 20X, I00Y.
16.80 metres
From perpendicular point to 20X,100Y 12.70 metres.
From plinth to 20X,100Y 21.25 metres
Measured from corner of middle plinth on Katherine Cross to perpendicular to ref point 40X,100Y
29.00 metres.
From perpendicular point to 40X,100Y 3.15 metres.

On the War Memorial measuring from nearest, widest points of cross shaped plinth.
To 80X,160Y 8.07 metres from east point and 9.20 metres from west point.

To 100X,160Y 14.55 metres from north point and 13.70 metres from south point.



Not to Scale

Part 2

Magnetometer Survey of the area believed to be the site of Ampthill Castle in the County of Bedfordshire.

TL026385

September 2010

This survey was carried out by the Ampthill & District Archaeological & Local History Society at the same location as the 2002 - 2003 survey.

A similar grid layout was used to help with comparison. The actual grid size for the magnetometer survey was 30m x 30m as opposed to the resistivity survey which was laid out on a 20m x 20m grid.

The equipment used was a Bartington Grad 601 magnetic field gradiometer. The readings were taken on the 0.1nT range, at 0.25 m intervals on zig-zag traverses 1m apart within 30m x 30m square grids.

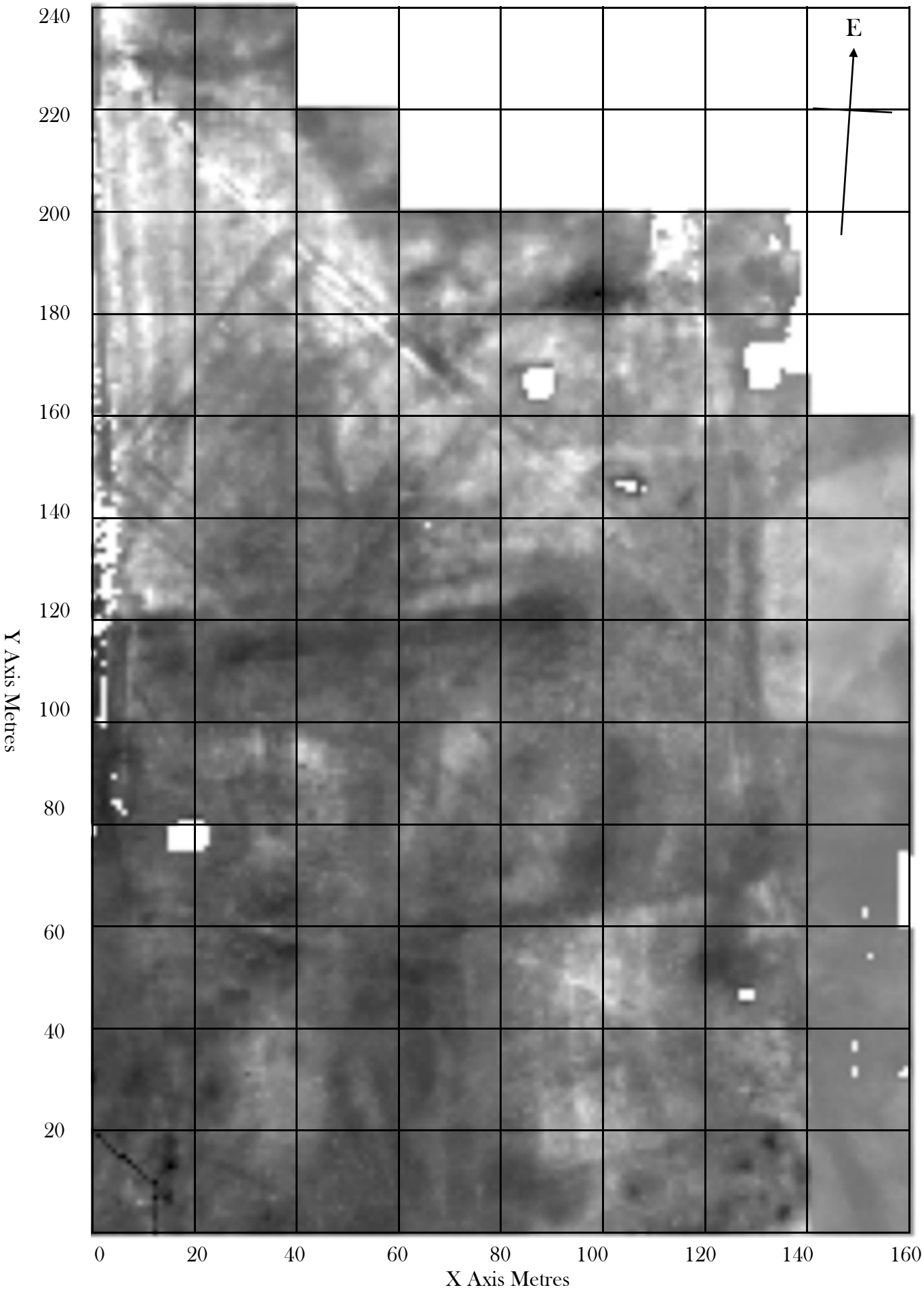


Figure 6: Results of the TR/Cia Resistance Survey. Repeated for easy comparison with Figure 7

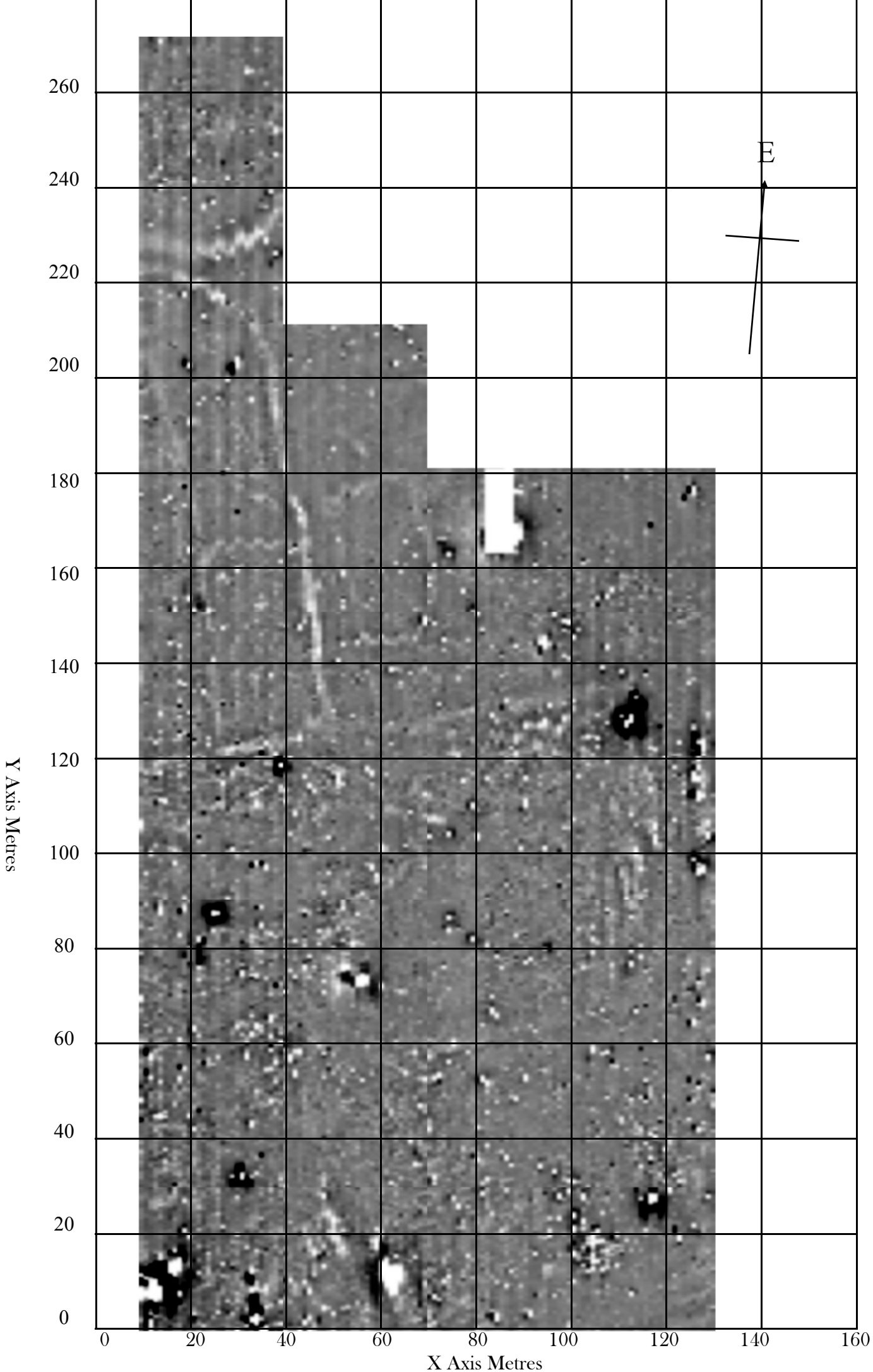


Figure 7: Results of the Bartington 601 Gradiometer Survey

Survey of Castle Site using a Bartington 601 Gradiometer

Further to the resistivity survey on the castle plateau in 2002, a survey was carried out in 2010 using a Bartington 601 gradiometer. The survey was carefully plotted to cover the main area as before using the same locations to allow for easy comparison. The gradiometer plots were 30 x 30 metres as opposed to the 20 x 20 m used for the resistivity survey. As explained in Part 1 the resistivity method measures the resistance of the soil at each point of test and gives a comparison of all such points within the area. When the plot has been completed high resistance (dry areas sandy soils, possible walls etc.) show up light while low resistance (wet soil, clayey soils, soils with more humus, refilled ditches etc.) show as dark. From this buried walls or rubble can produce light patches or lines, whereas early ditches or damp areas can produce dark lines.

A gradiometer works entirely differently and shows features by measuring the distortion of the earths magnetic field caused by metallic or magnetic sensitive objects in the soil or by variations caused by movements of soil such as when a ditch is refilled or when burning realigns the magnetisation of materials. (Gaffney & Gater 2003).

Unfortunately, there is no clear evidence for the castle foundations on the gradiometer plot but the ridge and furrow lines do appear in the north east with the western extent finishing in a line at 120 feet along the Y Axis. As this line corresponds with the suspected moat on the resistivity it could be significant.

We have clear evidence that one method of geophysics does not supercede or replace the other, gradiometers are often used in preference as they are much less labour intensive and therefore cheaper for large areas. When a direct comparison is made it can produce interesting results but in the Ampthill Park surveys it also emphasises the risk taken by just using one method and that final conclusions can only be made following very careful excavation.

The gradiometer plot illustrated shows the results set in a 20 x 20 m grid, for direct comparison with the resistivity plot. It is a very “noisy” result, i.e. many disconnected high points occur, probably due to the intensive use of the land over the years as a public place. The most outstanding archaeological type features show within the eastern half of the plot. The light lines indicate what are most likely to be refilled ditches. The main one runs from X25,Y122 starting south and then sharply turning east to X35,Y200 before curving north. The resistivity plot also shows these features but their significance tends to be lost by the many features around them. On the gradiometer survey there are other apparent ditches, and these have been annotated in Figure 8. Clearer lines have been overlaid in blue. The red lines indicate where there are less clear lines leading into the western area where there is much more clutter on the survey. In the eastern area there are what appear to be three enclosures and a well defined curved ditch to the east which also shows on the resistivity plot.
The ditches clearly underlie the ridge and furrow suggesting they are earlier, possibly of Neolithic or Saxon origins.

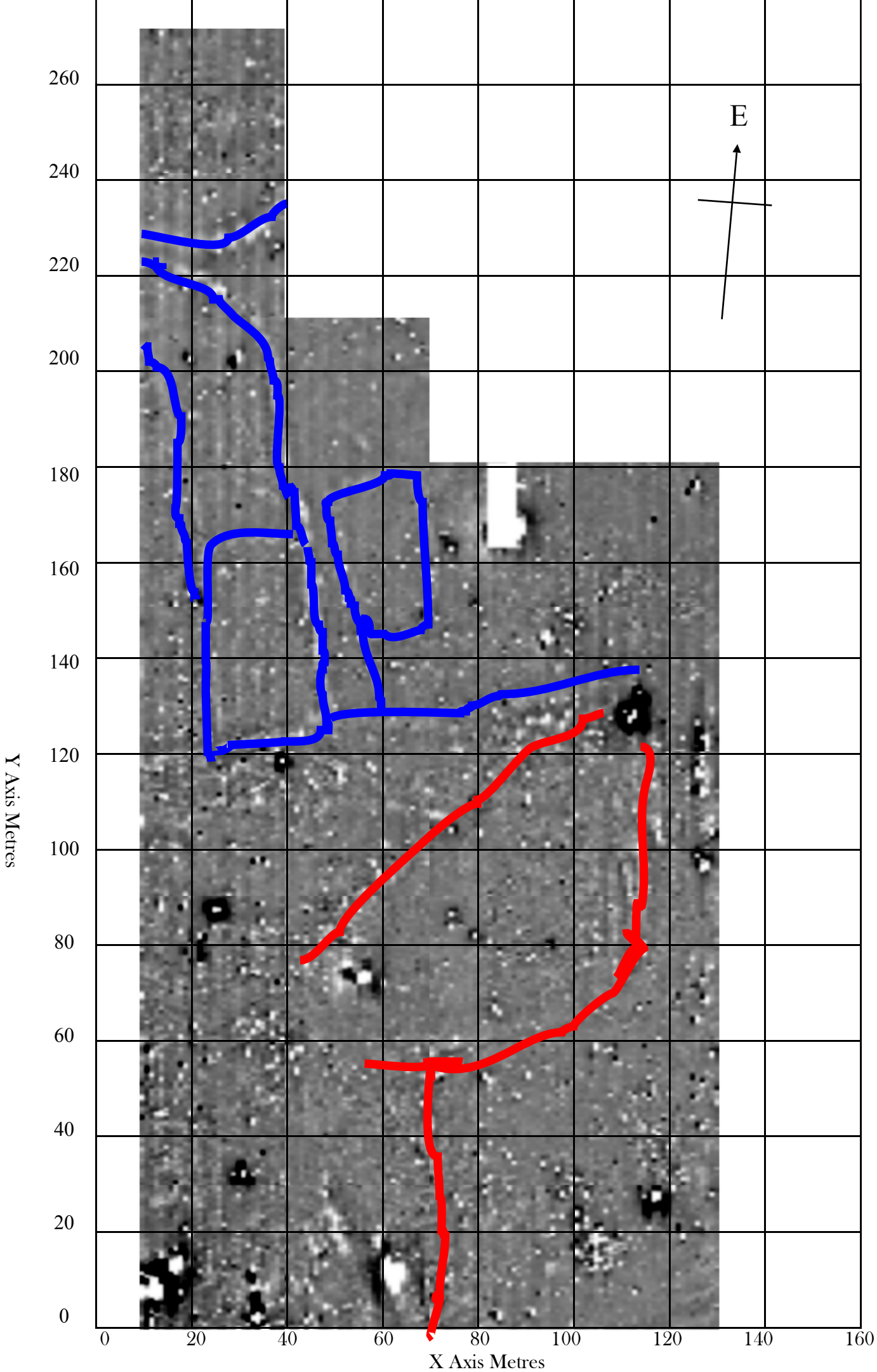


Figure 8: Results of the Bartington 601 Gradiometer Survey with apparent ditches annotated

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Acknowledgements.
Valuable discussions with Barry Dackombe.
Grateful thanks to Bedfordshire County Council Heritage & Environment Section for permission to reproduce the Topographical survey of the platform.

The Society wish to give special thanks to Mr. Tom Nichols of Geomatrix Earth Sciences Ltd. for making available the Bartington Gradiometer 601.

In his Survey of the Crown estates and Castles c.1533 John Leland refers to a fine castle at Ampthill. However, in subsequent records the term Manor House appears more frequently which may reflect the changes made over the ensuing years.

Published by the Ampthill & District Archaeological & Local History Society January 2011
Enquires to K J Fadden k.fadden@btinternet.com

Part 3

A Summary of an Excavation Carried Out by Albion Archaeology in July and August 2018 following the discovery of Saxon pottery by Northampton Archaeology while attempting to find the location of Ampthill Castle.
The information and figures were taken from the following report:

Project : AP3360
Accession number: BEDFM 2018.42
Oasis reference: albionar 1-320883
Document: 2019/60
Version: 1.1.0

6th July 2020

The excavation carried out by Albion Archaeology in Ampthill Great Park in July & August 2018 was a follow up to the unexpected discovery of Saxon pottery by the Northampton Archaeology in 2009 while attempting to find the site of Ampthill Castle. It comprised a trial trench 47 m long by 4 m wide, with a north-south alignment to the east of the scheduled area. It covered a small portion of the suggested ditch complex suggested by the magnetometer survey discussed in Part 2 of this report.

The excavation was comprehensively reported in July 2020 and it unearthed an early-middle Saxon settlement characterised by boundary ditches, pits, post holes and a sunken-featured building (sometimes known as a pit house or from the German, Grubenhaus). The location of the features were indicated with pinpoint accuracy on the ADALHS magnetometer survey demonstrated in the figures (9 & 10 Albion Archaeology figuration) copied from the Albion Archaeology report. The artefacts and ditch profiles together with the survey allowed a conjecture of an extensive Saxon settlement in a relatively well preserved condition.

Relevant information taken from the Albion Archaeology Report.

Overview
Trench 1 produced clear evidence for early-middle Saxon settlement at the top of the dip-slope of the ridge. This settlement was characterised by boundary ditches, pits, postholes and a sunken-featured building. The ditches extended beyond the confines of the trench and it is likely that the settlement extends further, particularly to the east in the area not covered by the Scheduled Monument.
The extent of the enclosures could not be defined within this single trench. However, understanding of the settlement's layout has been greatly assisted by the results of the magnetometer survey (EBD594; Fadden and Turner 2011. which have been georeferenced by Albion Archaeology. All the linear archaeological features within the trench corresponded with anomalies located by the magnetometer survey (Figures 9 and 10). This suggests that they comprise the ditches of an extensive system of enclosures, perhaps defining the boundaries of a settlement and associated fields.
The finds assemblage from Trench 1 predominantly comprised Saxon pottery (2.5kg) and animal bone (272g). In addition, a Saxon loom weight, a copper alloy fragment (possibly part of the arm from a set of tweezers and a Roman frit melon bead (dated to the 1st/2nd century). Finds tended to be concentrated to the centre of the trench near a domestic focus, comprising a sunken-featured building and a nearby refuse pit, although all the ditches produced pottery sherds to varying quantities. Datable artefacts suggest that the settlement was occupied during the early-middle Saxon period (c.AD550-850).*

Overall the evidence recovered is consistent with rural Middle Saxon settlements found in Central Bedfordshire. These often occur on sites primarily focus of interest is Iron Age or Roman settlement, as at Flitwick (Luke 1999) or as at Stratton, Biggleswade, excavated in the 1990s (Albion Archaeology, in prep). A more recent investigation of a significant Saxon settlement took place at Stotfold (Albion Archaeology 2011). Although based on small-scale trenching, the results of the Ampthill Park investigation would suggest the remains survive of an extensive Saxon settlement that is relatively well preserved, not having been subjected to the effect of modern arable farming.

*A similar bead was found by ADALHS on the Ampthill Bypass.
Society's website Rescue Excavation of Belgic/Early Roman Pits 2011.

Figures taken from Albion Report

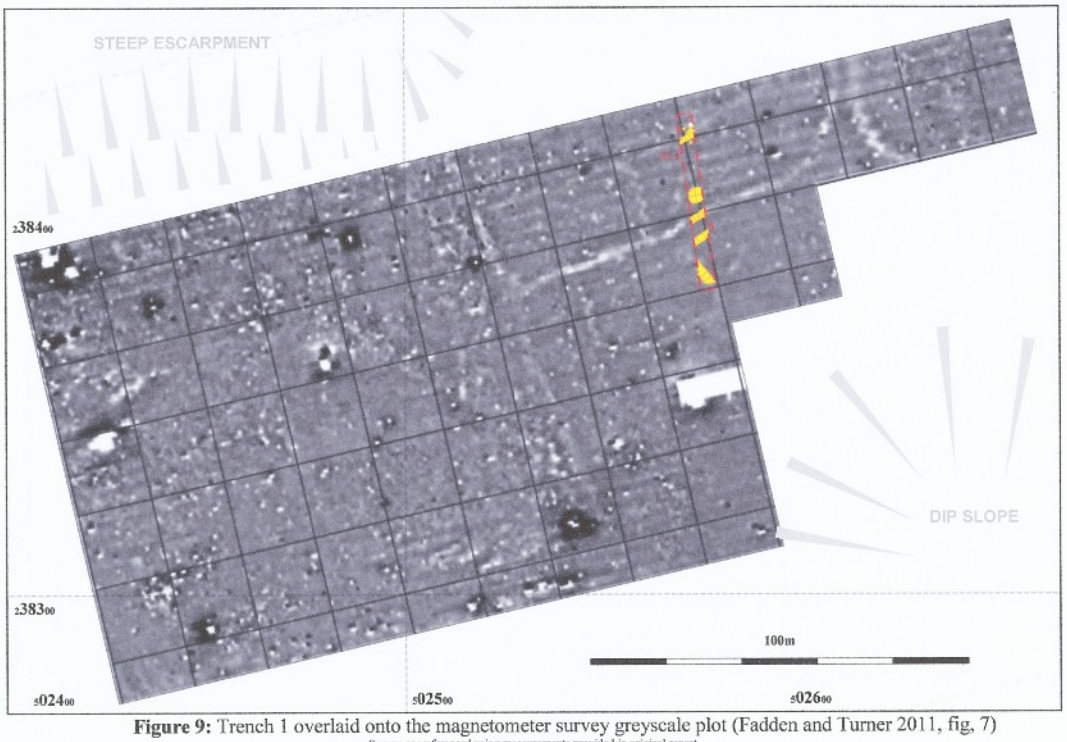
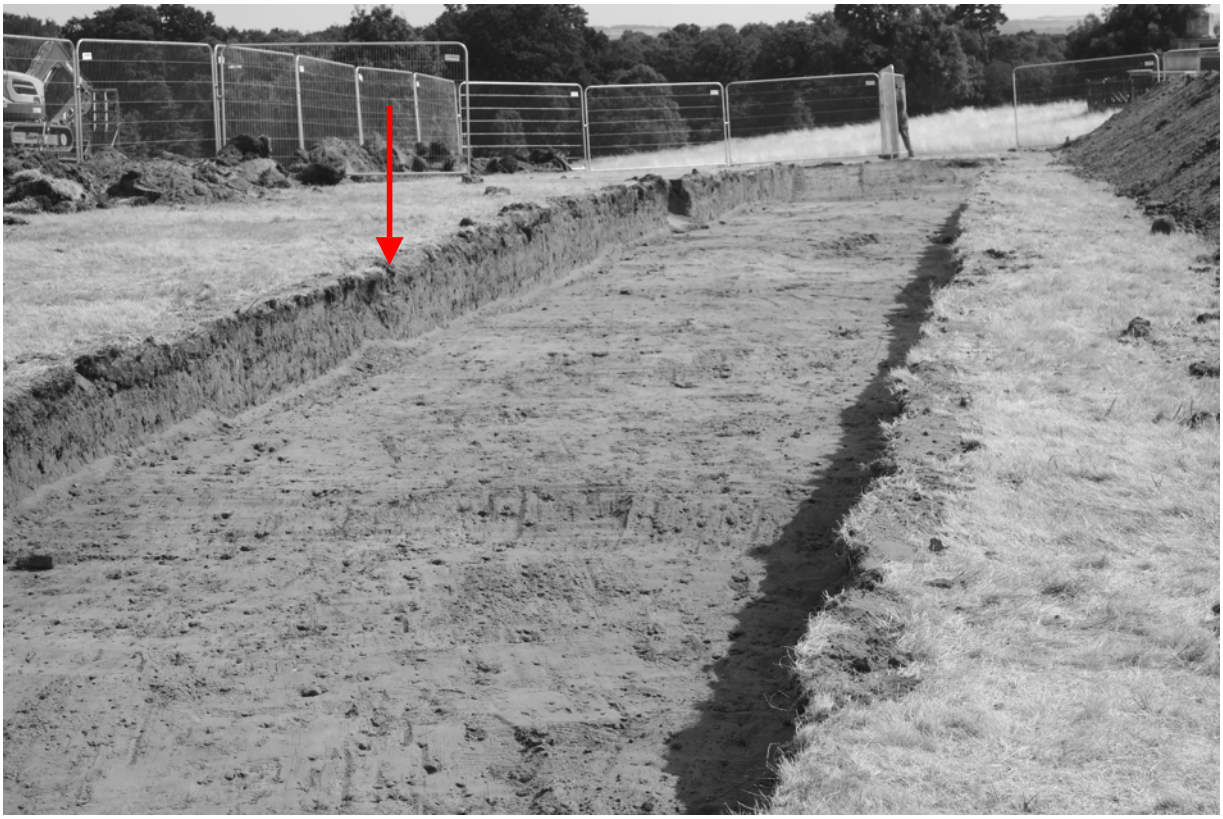


Figure 9: Trench 1 overlaid onto the magnetometer survey greyscale plot (Fadden and Turner 2011, fig, 7)
Survey georeferenced using measurements provided in original report.



Figure 10: Conjectural interpretation of the magnetometer survey greyscale plot (Fadden and Turner 2011, fig, 7) with reference to trial trench data.
Solid lines indicate anomalies that correspond with excavated features
Survey georeferenced using measurements provided in original report.



Ph 1. Albion trench 1 with topsoil removed. Arrow locates the section shown below. Authors photograph.



Ph 2. Photograph taken by the author showing a section through the robbed castle foundation cut through by Albion Archaeology's trench 1. It contained late medieval pottery & tile.

ADALHS Conclusions.

Both surveys were carried out to determine the location of the Ampthill Castle, the ditch complex was a surprise, and clearly predated the castle site suggested by the resistivity. The Albion Archaeology excavation showed it to be Saxon. It is significant that a ditch ran under the south east corner of the building where the Saxon pottery was found by Northampton Archaeology. This could account for residual material in an unsealed context. The section through the robbed castle wall portrayed in the Albion trench 1 (Ph 2) gives credence to this view. The Northampton trench was not excavated to bed rock and the ditch is almost certainly a metre lower.

The ridge and furrow which appears in both surveys runs under the castle and above the Saxon sunken featured building. This is clear evidence for Medieval agriculture after the Saxon occupation and before the castle was built. (circa 1420.).