BATH & CAMERTON ARCHAEOLOGICAL SOCIETY

Geophysics at Priston 2015 and 2016.

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Abstract

A survey of Goosemead, to the north of already-surveyed Town Hill, had to be abandoned in 2015 when vital equipment failed. It did not prove possible to return to the field because of incompatible agricultural use. A survey in 2016 concentrated on Inland, a triangular paddock to the south-west of Town Hill, immediately across a lane from that field. This showed significant activity, including half of a sub-circular enclosure at its western end. There was also significant activity which could not be resolved into identifiable features at its eastern end, near the road junction. This activity appeared to be linked to features found just beyond the road junction in Great Croft field in 2007. Although no consistent patterns could be discerned, it seems that there was a major feature, probably of Romano-British origin, centred under the road junction and possibly the gates to the Manor House just to the south.

Geophysics at Priston, 2015 and 2016

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Preface

This report describes geophysical surveys undertaken in 2015 and 2016, although that in 2015 had to be aborted at an early stage because of equipment failure. It did not prove possible complete the 2015 survey, but an alternative site became available close to the earlier survey.

This report describes briefly the 2015 report but concentrates mainly on the 2016 survey and how it adds to the context of Priston archaeology by comparison with surveys in neighbouring fields.

Acknowledgements

The survey was carried out by volunteers from the Bath and Camerton Archaeological Society, with assistance from the Priston History Society. The author would like to thank Janet Pryke, Lawrie Scott, John Richards, John Knapper and Terri Bell from the Bath and Camerton Archaeological Society. Thanks are also due to Howard Jones, Doug Patterson, Paul Barclay and Ruth Somers from Priston for helping in the survey.

Particular thanks are due to Richard Bottle and Amanda Allan for allowing us to use their houses for downloading the survey data.

A big thankyou is of course due to Nick and Kate Kepple-Palmer for allowing us access to their paddock, especially as it was requested at very short notice and at a busy time.

Thankyou to Niels and Clare Cross for organising the survey as well as helping in it. As in previous years, Tim Iles has generously allowed us to use his yard for parking.

The author also acknowledges the use of Dorset Explorer and Google Earth in preparing maps used in this document.

Thanks with apologies to anyone I have inadvertently left of this list.

1 Introduction

1.1 Location

Priston is a village and parish within Bath and North-East Somerset (BANES), approximately 10 km south-west from Bath, centred on ST 695 605.

Goose Mead is a field to the north-west of the village, in the valley of the Conygre Brook, in the vicinity of Priston Mill. The field is centred on ST 692 611. It is quite flat, approximately 70 m above Ordnance Datum (OD). The field is below Town Hill, which was surveyed in 2014. The field is arable.

Inland is a small field on the north-facing hillside above Goose Mead, to the west of Town Hill, centred on ST 692 607. Its mean height is approximately 90 m OD. The field is approximately 2 ha, and is a grass paddock. This paddock is regularly used for car parking for village events, so there may be some spread of magnetic debris from such modern use.

Figure 1.1 shows the location and figure 1.2 the disposition of the fields surveyed throughout the Priston sequence.

1.2 Chronology

Town Hill had been surveyed in 2014, as the name had suggested possible archaeology. Earlier, in 2007, Great Croft, a field to the east of this, immediately to the north of the declivity in which the village sits, had been surveyed. This had not revealed the Roman Villa believed to be in the vicinity, but it had shown archaeology. That field had been investigated by the late Bill Wedlake of the Bath and Camerton Archaeological Society (bacas) in the 1950's.

Town Hill had shown signs of archaeology along its western flanks and a possible substantial feature in its north-east corner, as well as features in the garden of Pensdown, a bungalow at the southern end of Town Hill. The 2014 season showed magnetometry to be relatively successful, where resistance had shown little and was left incomplete.

A survey of Goose Mead, just across the northern hedge of Town Hill, was started in April 2015 using principally magnetometer with some support from resistance. However, the magnetometer broke down on Day Two of the survey, and resistance had not located any structure next to Town Hill, so the survey was abandoned. The partial results are included in this report. The survey had been set up on the same grid as Town Hill, as markers were still in place in Pensdown garden.

It had been hoped to resume the Goose Mead survey in April 2016, but the agricultural cycle was already too advanced to allow this, but Inland was made available for survey at short notice.

1.3 Personnel

The survey was conducted by members of the bacas, under the direction of John Oswin MA PhD CSci, with assistance also provided by members of the Priston Historical Society. The survey was arranged and organised by Clare Cross from Priston.

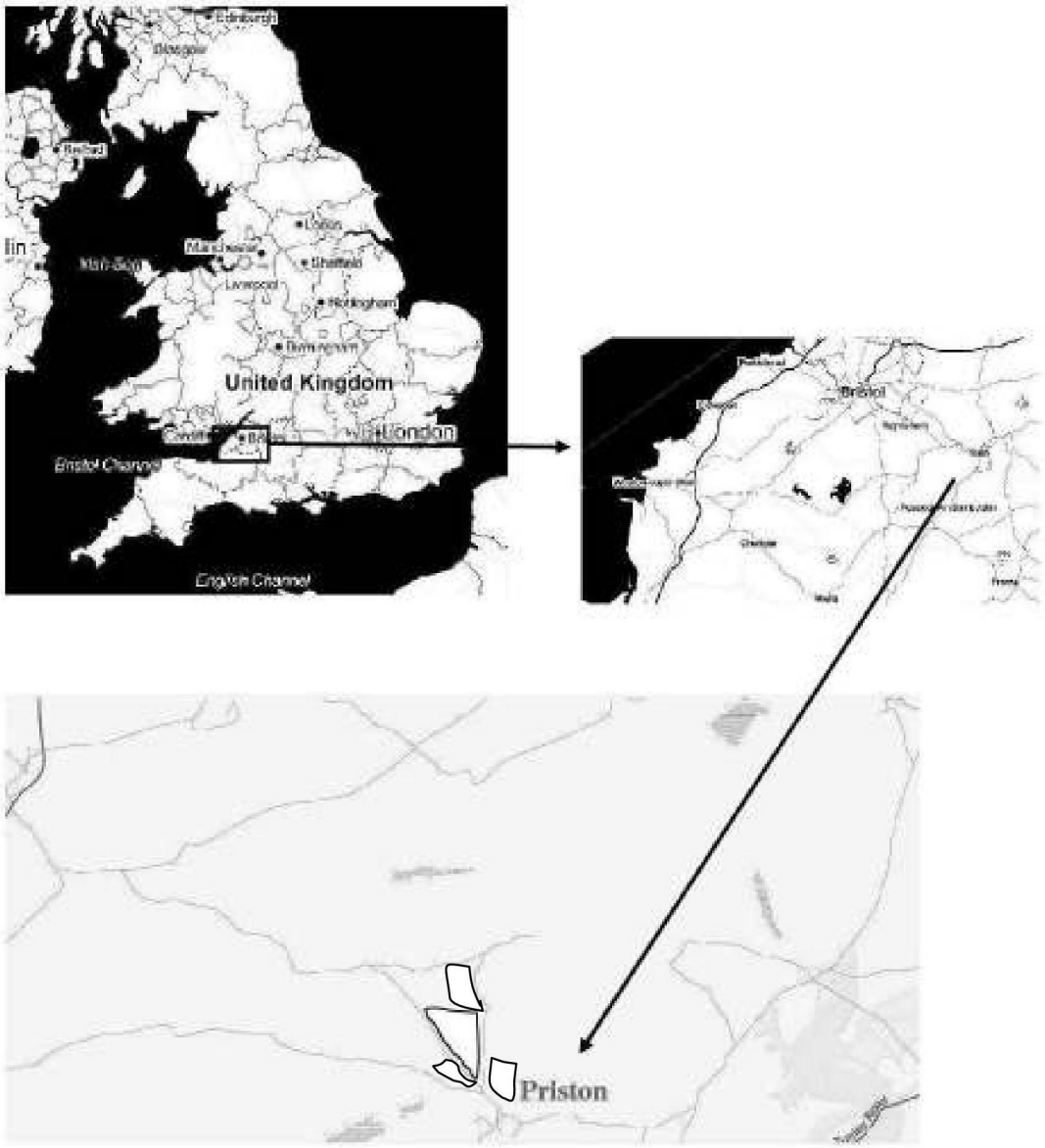

Figure 1.1. Location of Priston, also showing the fields which have been surveyed.

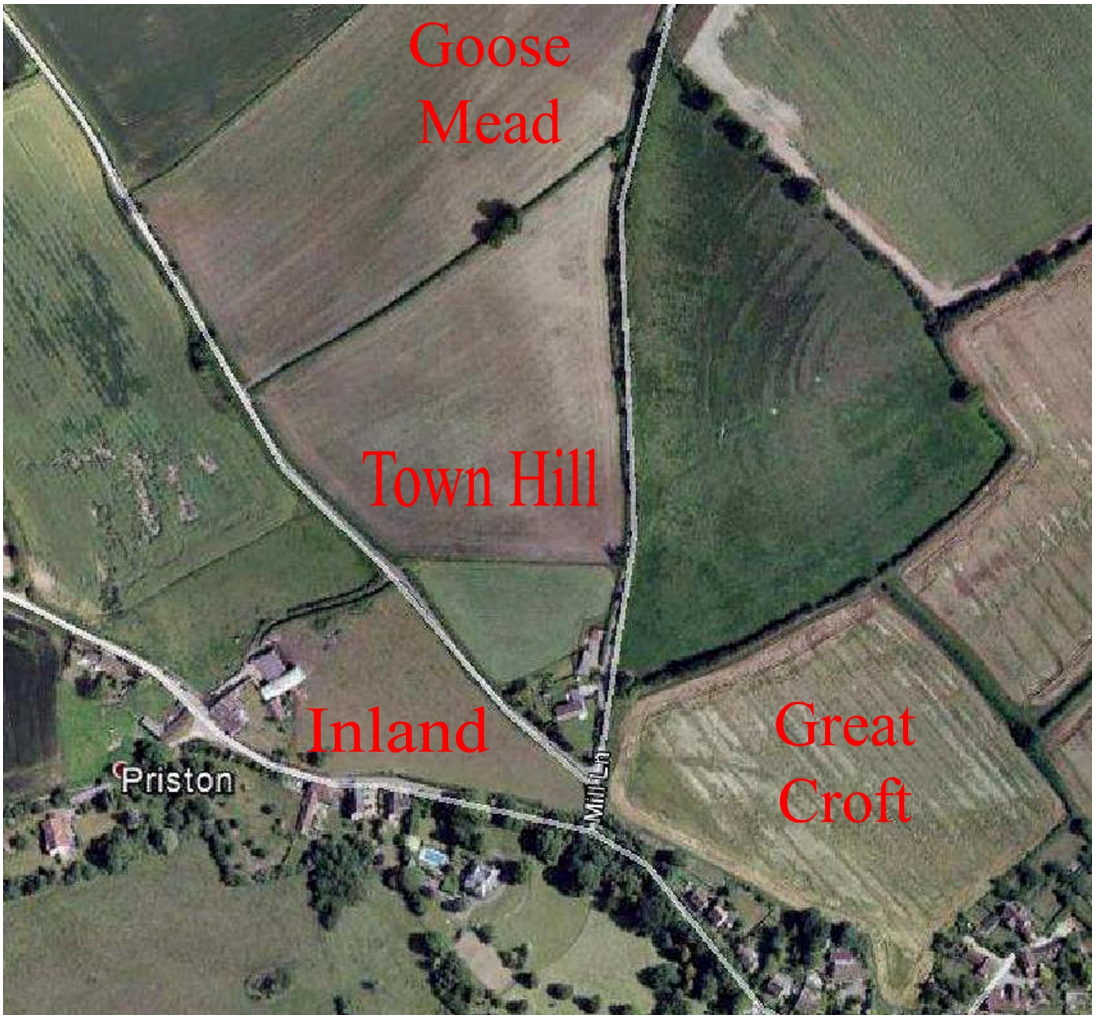

Figure 1.2. The names of the fields which have been surveyed at Priston. This report details surveys in Goose Mead and Inland. Acknowledgements to Google Earth.

2 Method

2.1 Gridding

Grid squares of 20 m were used throughout the Priston Surveys. The initial traverse was from west to east, starting at the north-west corner. This is perpendicular to bacas' normal direction but was beneficial in operating close to an east-west iron fence. Grids were surveyed using the pattern indicated in Oswin 2009, page 115, figure 5.8 (c).

The grid was extended from Town Hill in 2014 into Goose Mead in 2015. The grid used in Inland in 2016 was aligned with the eastern hedge, and a (grid) east-west traverse was adopted again for consistency, but the grid could not be related to that used in previous years.

2.2 Magnetometer

Magnetometer surveys were undertaken using a Bartington 601-2 dual fluxgate gradiometer. This device broke down and refused to calibrate in April 2015 and had to be sent for repair, and this led to the abandonment of the 2015 season. The device functioned correctly throughout the 2016 survey. Readings were taken every 0.25 m along lines 1 m apart, giving 1600 readings per 20 m square. The reading sequence is automatically converted to parallel lines during download.

2.3 Resistance

BACAS has both a TR/CIA and a Geoscan RM15 meters for resistance survey. Both are set to take readings every 0.5 m along lines 1 m apart, giving 800 readings per 20 m square. The TR/CIA device automatically converts data to parallel on download, but the RM15 downloads data in the zig-zag fashion walked. The TR device had been used in the aborted 2015 season, and both the RM15 and TR/CIA devices had been used in the 2016 survey. Because resistance is a much slower technique than magnetometry, the resistance surveys were only partial and were found to reveal much less than the magnetic surveys.

2.4 Contour Survey

The 2015 survey of Goose Mead was aborted before any contour survey was done. A contour survey was carried out for Inland as the field sloped significantly, with a slight bank in the south-east corner. Lidar data from the Environment Agency are not available in this part of the parish.

The survey was carried out using a Sokkia SET5W, using the bench mark (96.75 m OD) on the front of Manor Cottage opposite the field. Corners of 20 m grid squares were measured in areas of consistent gradient, with extra points added at changes of slope. Results were recorded by hand before entry into an XL spreadsheet, and then they were copied across to DPlot software for analysis. The field grid was not related to National Grid. Grid north was used for alignment.

2.5 Software

The Bartington magnetometer was downloaded to computer using Bartington proprietary software before processing with a bacas proprietary zero-median de-stripe program before mapping using INSITE v3 (1994). This processor is still preferred by bacas for its simple operation, graphic interface and ability to handle both parallel and zig-zag data within the same plot.

The resistance meters were downloaded using bacas proprietary software and then imported into the INSITE program.

2.6 Constraints

Time was limited to two days per week for two weeks but this was sufficient to complete the magnetometer survey, carry out a partial resistance survey of the areas of interest shown by magnetometer, and to undertake the contour survey. The field then had to be released for grazing horses. Grass length was manageable. Weather conditions were dry if windy. In a few places, magnetometer survey was limited by iron fences within hedges and iron stays for telegraph poles. Traffic could pass along two sides of the field but it was quite infrequent, so rarely interrupted the magnetometer work.

3 Results

3.1 Goose Mead, 2015.

The survey had to be aborted on the second day as the magnetometer would not go through the calibration routine and had to be sent for repairs. On the first day, the grid had be reinstalled from Pensdown so that it continued from Town Hill, and the far eastern portion of Town Hill was surveyed by magnetometer, a width of up to 40 m from the eastern hedge along its full north-south length.

There were some possible pits, as shown in figure 3.1 but no continuous features. There have been metal-detector finds in this field, so there may be archaeology, but there has not been an opportunity to continue the survey westwards.

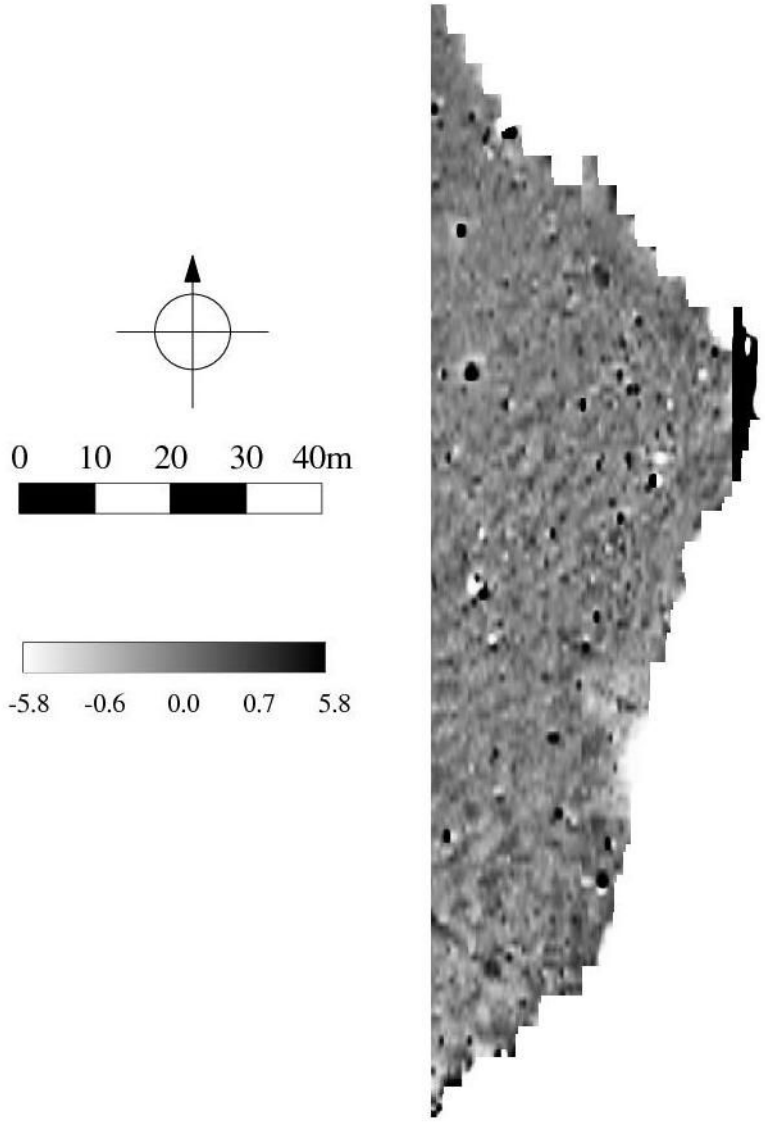

Figure 3.1. Goose Mead (surveyed portion). Magnetometer survey.

There was some resistance survey over two days. On the first day, the far north-eastern corner of Town Hill was surveyed in the area where the magnetometer had detected a feature in the closing grids of the 2014 survey. The plot was not blank, but it was not possible to deduce the presence of any substantial structure which would have matched the magnetometer feature seen here.

A second day's resistance survey started to explore Goose Mead from the south-east corner, just over the hedge from the first day's survey, but no features were interpreted reliably from the output. The survey results are shown in figure 3.2.

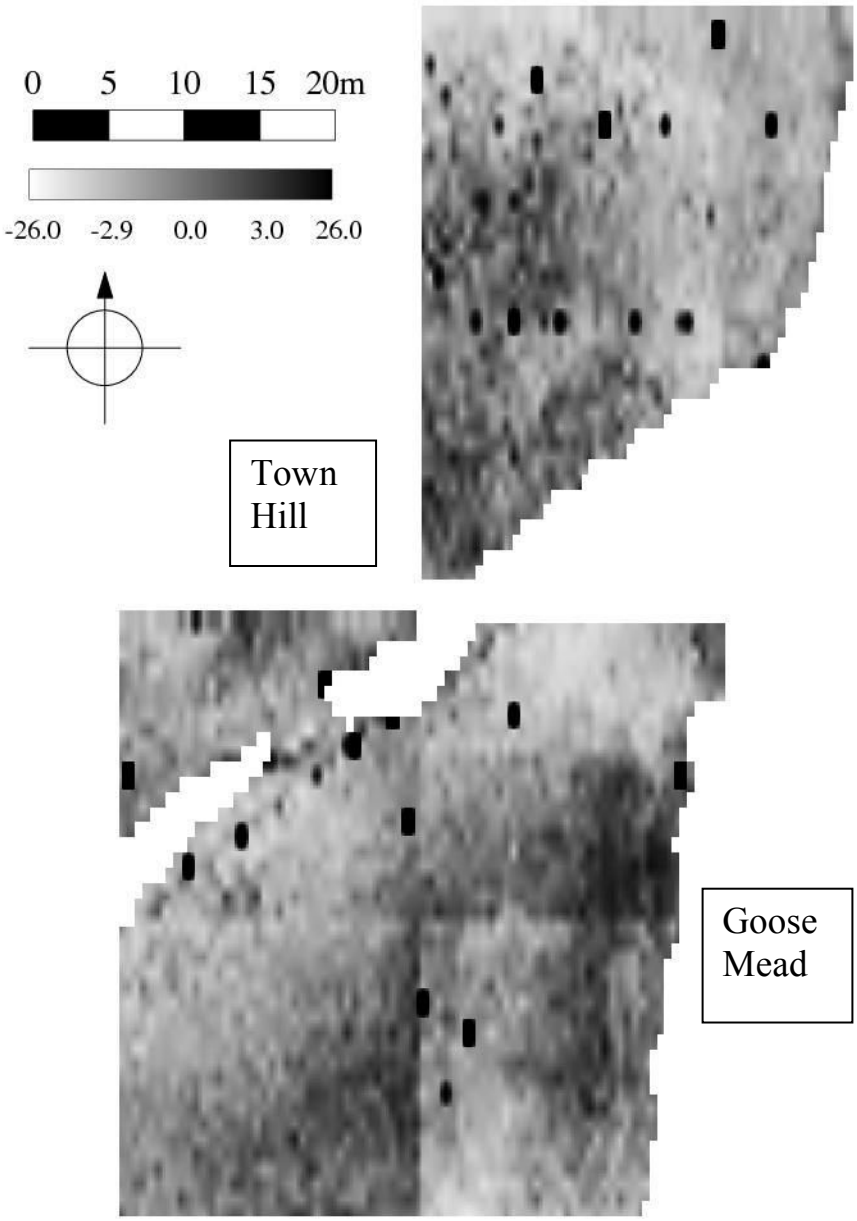

Figure 3.2. Resistance survey, 2015, covering extreme north-east corner of Town Hill and the extreme south-east corner of Goose Mead.

3.2 Inland, 2016

Further survey at Priston was carried out between the 5th and 23rd of April 2016. It had been hoped initially to continue the survey of Goose Mead, but the agricultural cycle was already too advanced. However, Inland, a triangular paddock immediately to the west of Pensdown bungalow, was made available. This was a relatively small field of grass at the top of the slope, approximately 2 ha. It was just across the lane from a portion of Town Hill which had shown field boundaries which were possibly prehistoric. Note, however, that the ground level at any point in Inland was approximately 1 m above that in Town Hill just across the lane.

The entire available area was subject to magnetometer survey as this had proved the most productive, but as this showed considerable activity in the north-east corner and in the west, some resistance survey was also done. The field was also subject to EDM survey so that a contour map could be drawn, as lidar was not available for this locality.

The magnetometer results are shown in figure 3.3. Results close to the hedge were restricted by metallic interference, particularly along the south-west side, but a number of features are evident. There is considerable activity suggesting multiple ditches, including curves in the south-east corner. These do not form a coherent pattern in themselves but become relevant when placed in the context of earlier work. There is a slight raised platform in this corner of the field. A pair of parallel lines running east-west may be part of a roadway.

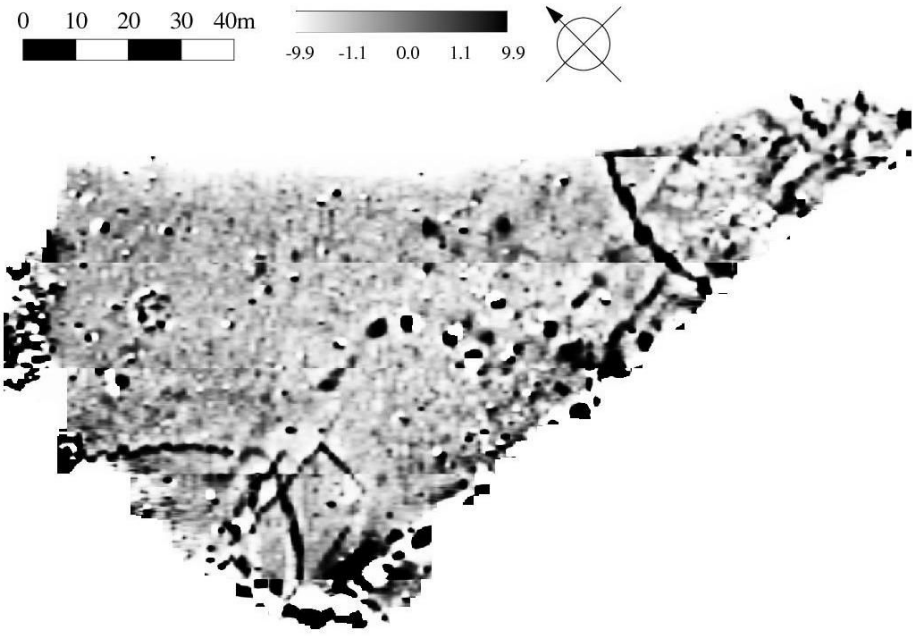

Figure 3.3. Magnetometer survey, Inland.

There is a sub-circular enclosure some 40 m diameter in the west, of which half is showing in the surveyed area. A rectangular feature seems to cut across this. Three sides are visible, forming a rectangle some 10 m by 25 m. There is a third feature which appears as dashed white and black, forming two sides of a rectangle, with a rounded corner. The shorter side is approximately 20 m, and goes to the centre of the south-west side of the paddock, where the gateway is. The longer side, some 50 m, goes straight through the centre of sub-circular enclosure, and there is a suggestion that it may be turning through a second rounded corner at its western end, but this is right on the edge of the plot. The dotted nature suggests a ferrous pipe, but the striping is normally much stronger than occurred here, so this may be a feature of archaeological interest. Further to the north-west is a sub-circular feature which could possibly be a round house, but could equally be modern disturbance such as a bonfire. Figure 3.4 annotates these features on to figure 3.3.

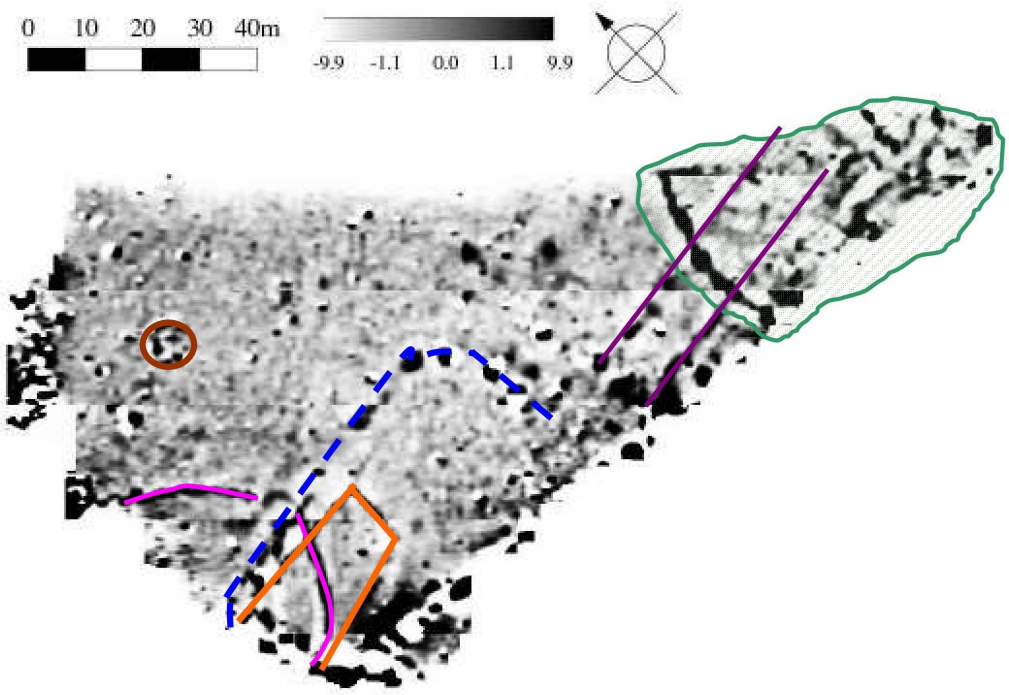

Figure 3.4. Annotated magnetometer plot, showing high activity area (green shade), possible roadway (mauve), sub-circular enclosure (purple), rectangular enclosure (orange), curved corner enclosure (blue) and possible round house (brown).

Figure 3.5 shows the (partial) resistance plot. There are some areas of higher resistance, but these could be natural. There are also patches of low resistance, possibly representing an ancient pond and drainage to the north field edge. The low resistance line along the south-west edge is the course of a water pipe. Features seen in the resistance survey do not seem to relate closely to those seen in magnetometry.

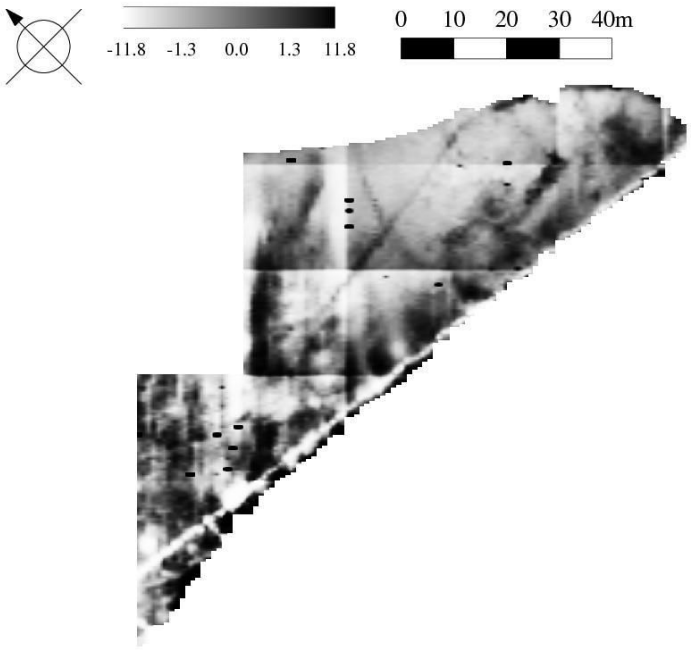

Figure 3.5. Resistance plot of Inland (partial area only).

4 The archaeological context of Inland

Inland is the westernmost of three fields surveyed by geophysics, and the three form an (almost) continuous coverage about 400 m east-west and 200 m north-south. Great Croft was surveyed in 2007, Town Hill in 2014 and Inland in 2016. There is a small portion of a field to the north of Great Croft, to the southern slopes of Pensdown Hill, which could be included, but otherwise the area is constrained by later development to the south. This is a hilltop area, sloping to the east and to the north.

The small area surveyed in Goose Mead is part of an incomplete survey and added no extra archaeology, so it will not be included in this discussion.

The total area surveyed is shown in figure 4.1, based on Google Earth. A second version, figure 4.2, repeats this display and has added contours to show extent and direction of slope, but this reduces clarity of archaeological detail.

Figure 4.1. Magnetometer plots of Great Croft, Town Hill and Inland shown in their relationship to each other. Goose Mead survey not included. Acknowledgements to Google Earth.

Figure 4.2. Relationship of activity in Great Croft, Town Hill and Inland. The contours added mask the geophysics (refer to figure 4.1) but show the land falling away from the high point near the modern road junction.

The half-showing sub-circular feature on the western side of Inland may well be pre-Roman, although it could be mediaeval. It is definitely cut by a rectangular feature, probably a Roman field boundary, so is more likely to be earlier. The feature with curved corners could just possibly be Roman military, but the magnetometer response is rather uncharacteristic and a convincing case cannot be made. It may even be an artefact of the field's modern use as an occasional car park.

There is some archaeological detail on the eastern side of Great Croft, but the principal area of dense activity is towards the western side. This made little sense when surveyed in 2007, but the addition of detail from Inland in 2016 shows this activity continuing to the west and forming an area concentrated around the road junctions. Although the features form a quite dense group, they do not form a good coherent pattern. A view concentrating on just this area is shown in figure 4.3.

The presence of a major Roman settlement in Priston has been assumed since the early discovery of a Roman stone coffin, now in the church porch, and previous work on Great Croft by Bill Wedlake of the Bath and Camerton Archaeological Society in the 1950's sought to locate a villa, but with no more success than the current series of geophysical surveys.

Figure 4.3. Detail of junction of the three fields, showing area of high activity. Features do not align well between fields, but indicate a high density of features just under the road junction.

Given the density of activity around the road junctions, it is possible that a major structure lay just here, and it has been obliterated by roads, Pensdown bungalow and the driveway to the Manor House. It is surprising that there is no record or history within the village of Roman finds from the area. Even Edmund Rack (McDermott M and Berry S (eds), 2009) in the 1780's stated that there were 'no antiquities in this village'. However, it is not unknown for early roads to be pushed straight through Roman villas and no written record surviving (Oswin, 2015, 78-80), although there might be remains and pottery surviving in field banks.

If there is nothing under the south flank of Pensdown Hill, the alternatives are that a structure would either be under the church on its eminence to the south-east or under the present village in its sheltered narrow declivity. There have been no reports in either of these places which would support these locations, so if there is a site, it has yet to be discovered.

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Appendix A Grid Layout

Figure A1 shows the order and direction in which the magnetometer survey was carried out in Inland. Arrow marks the position and direction of the first traverse. The magnetometer was a Bartington 601-2 taking readings every 0.25 m on lines 1 m apart, giving 1600 readings per full 20 m square.

Grids 1, 2, 4, 5 and 20 are along the eastern edge of the filed, heading into the hedge. Grids 9, 10, 11 are in the top corner.

Data were downloaded as parallel lines using the Bartington download routine and then processed using a bacas proprietary zero-median de-stripe program. De-striped data were stored with the prefix 'd'. The raw data had the prefix 'm'.

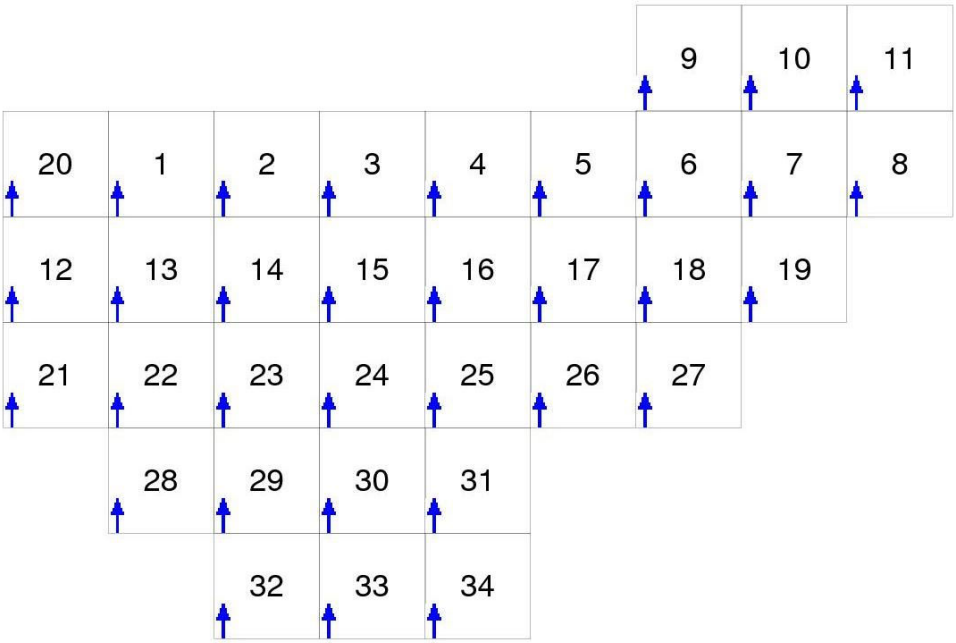

Figure A1. Grid layout for magnetometer survey of Inland.

Figure A2 shows the grid layout in Inland for the (partial) resistance survey. The blue arrows indicate use of the TR/CIA resistance meter, which downloaded parallel data. The red crossed arrows indicate use of the RM15 meter which downloaded zig-zag data. The arrows indicate the starting point and direction of initial line. Readings were taken at 0.5 m intervals along lines 1 m apart, giving 800 readings per full 20 m square. Data were downloaded using proprietary bacas software, and stored with a prefix 'r'.

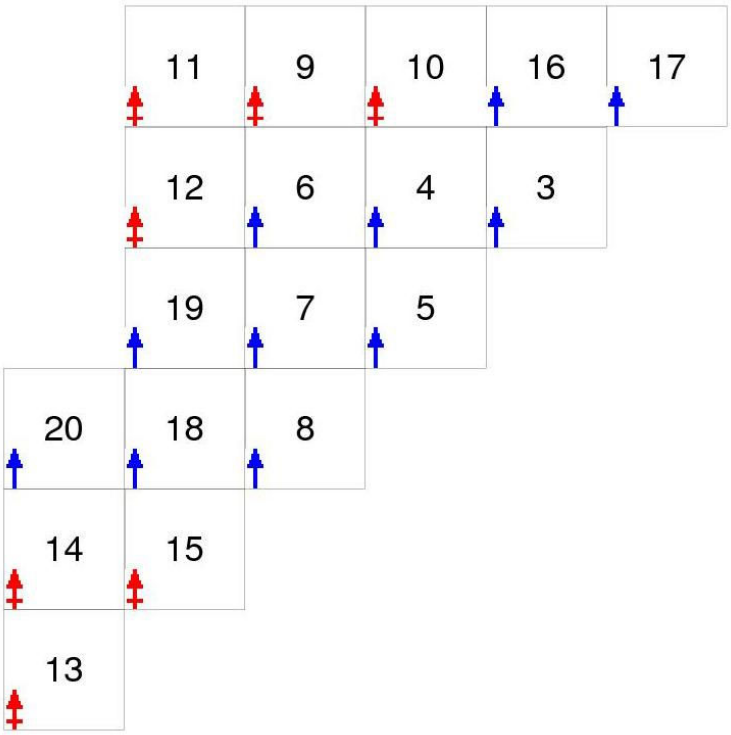

Figure A2. Grid layout for (partial) resistance survey of Inland.