Geophysical Survey at Priston

BATH & CAMERTON ARCHAEOLOGICAL SOCIETY

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Summary

The Bath and Camerton Archaeological Society conducted a combined Geophysical Survey of the field known as Great Barn Close at Priston at the request of Priston Millennium Committee in October to November 2007. The survey was requested as part of a wider study of the Parish and because of the find of a Roman burial in the field in 1917. It was fitting that the Bath and Camerton Archaeological Society were involved with this project as it was the Society, under William Wedlake, that excavated in the field in 1953. This survey helps to bring yet more information to a story that has been told over a number of years.

This report includes some of the information from Wedlake's excavations as well as combining surveys of the field. It has been useful to bring these activities together to help understand the various activities that have occurred in this field.

Preface

The Geophysical Surveys done in this field are part of a wider study of Priston being undertaken for the Priston Millennium Committee to contribute to the Parish history. The field has been of interest since a Roman burial was found in 1917 and excavations were carried out by William Wedlake of the Bath and Camerton Archaeological Society in 1953. This report seeks to bring some of the previous work together as well as provide new information about the field.

The work was carried out by a team of volunteers under John Oswin (Geophysics Team Leader for the Society) and Jayne Lawes (Director of Excavations for the Society). The team consisted of Owen Dicker, John Hare, Ann and Jean Martin, Laurie Scott, Mike Lewis and Alan Glover, members of the Society. Keith Turner prepared the detailed printouts and layered illustrations.

We are grateful to the Pow family for allowing access to the field and to Tim Hughes for organising the access. I would also like to thank Clare Cross for the work she did on Wedlake's papers in Bristol Museum, enabling a much more informed analysis of the results.

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Contents

Introduction 1
Location 1
Geology 1
Historical and Archaeological Background 2
Methodology 3
The Equipment we used 3
Magnetometer 3
Resistance Meter 4
Electronic Distancing Meter (EDM) 4
The Survey 5
Magnetic Survey 5
Resistance Survey 7
Discussion 8
Conclusion 9
References 10

List of Figures

Figure 1: Location of Survey 1
Figure 2: Sketch Plan of Great Barn Close after William Wedlake's Drawing 2
Figure 3: Magnetic Survey. 5
Figure 4: Resistance Survey. 7
Figure 5: Combined Surveys. 8
Figure 6: The Surveys superimposed on the Priston Map by Mike Chapman. 9

Introduction

The field known as "Great Croft" (also known as "Great Cross Barn Close") has been at the centre of archaeological investigation for nearly a century, since the recovery of a coffined burial from the field in 1917. The geophysical survey conducted by the Bath & Camerton Archaeological Society for Priston Millennium Committee is the latest of these investigations. The Society was asked to undertake a comprehensive survey of the field as part of the Parish Council's Millennium Project.

Location

"Great Croft" field is located on the north side of Priston village (NGR ST 69357071). It has an area of approx. 5.5 ha, and at its highest point lies at about 95m OD, dropping steeply into a southern extremity towards the village to about 86m OD. The field was previously accessed via a lane that ran from Hill Farm to Mill Lane, but now is only approached via Mill Lane. There are visible earthworks within the field, although now becoming less well defined because of continued ploughing.

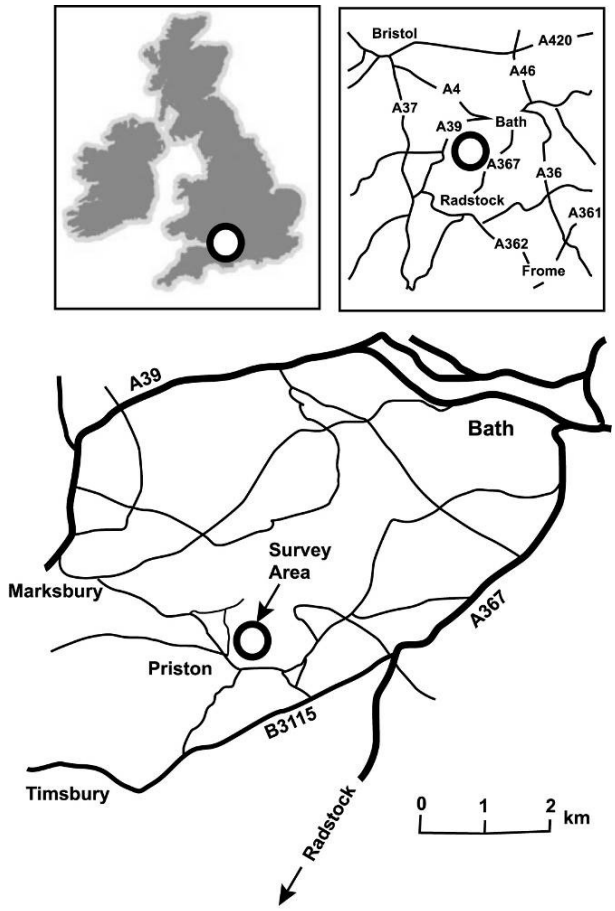

Figure 1: Location of Survey

Geology

Priston lies in the Jurassic geology that predominates the Bath region, particularly within an area of Lower Lias with silty clay soils, which are heavy and subject to surface flooding. The surrounding area is punctuated with small knolls of harder limestone and deeply cut streams. In the past the area would have been more suitable for grazing, although today mixed arable farming is the norm.

Historical and Archaeological Background

Priston village has a long and interesting history. The name is thought to have derived from "Priests tun", and there is an Anglo-Saxon Charter of 931 AD. The existing church has some Norman work, although it was substantially re-built in the 18th century when the tower collapsed.

There is also a rich archaeological heritage in the village and surrounding areas with evidence of prehistoric and Roman occupation within the Parish (see BANES HER). The field was the site of the discovery of a Roman burial in 1917, when workmen found a stone coffin while digging field drainage ditches. The find was reported in the "Somerset Archaeological and Natural History Society: Proceedings for the Bath Branch 1914-18" (p 249-50). The damaged coffin can still be found in the church porch. The burial was sensational at the time and attracted a lot of local attention, which led to it being very roughly handled. By the time it was seen by the writer of the article (Chas. J. Calvert) it had been very badly broken up with most of the skeletal remains robbed away. Two armlets had been recovered by Dr. Bulleid before the destruction of the find and these are now preserved in Taunton Museum.

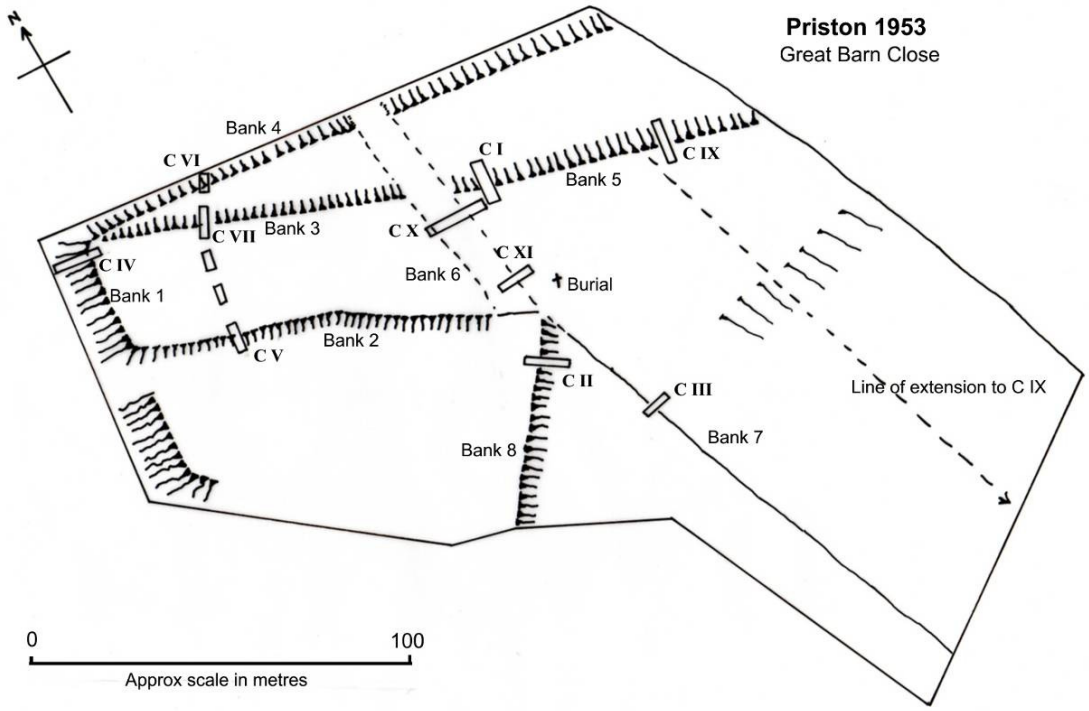

Figure 2: Sketch Plan of Great Barn Close after William Wedlake's Drawing.

Archaeological investigation was first undertaken in 1953 by William Wedlake (Founder and Director of Excavations of the Bath & Camerton Archaeological Society) who had seen the find when a boy of 14. It seems that he went to Priston soon after he was unable to work at Camerton and undertook a trial excavation to investigate the visible banks in the field. His excavations have never been fully reported, but notes about them have recently come to light in Bristol Museum. He dug approximately 11 trenches (see figure 2, although there is some confusion as to the exact number!). In most he found evidence of Roman occupation, but he did not find any buildings. There was also slight evidence of earlier occupation in the form of a number of sherds of early Iron Age Pottery. He did not investigate much of the area within that enclosed by the banks, and thus it was not surprising that he did not find buildings. He dug very narrow trenches, called cuttings to sample the banks with a long narrow trench from the bank 5, which runs east to west across the middle of the field to the southern field boundary, possibly looking for further burials. This work was never followed up in later years, but has now been augmented by this geophysical survey.

Methodology

The Society normally surveys the whole field using two types of geophysical instruments. We also use an EDM (Electronic Distancing Meter), to survey the area in detail. This gives comprehensive coverage of the whole site and enables the results to be fully integrated into the Ordnance Survey Maps.

The Equipment we used

We posses a magnetometer and a ground resistance meter for geophysical survey. The EDM provides relative distances and heights. This is used to build up a contour survey of each field, so that its relief is understood.

For the geophysical survey the team grids each field into 20 metre squares. In each square, it sets up 20 lines, each of 40 half meter points, each 1 metre apart, giving 800 points per square. Normally, the surveyor starts in the southwest and works north up the first line, returning south down the next east line and so on until the square is finished. Starting point and direction can be altered if there is some particular benefit. We also survey the part squares at the edges of the grid to ensure no information is lost.

Magnetometer

The Society has an FM256 Fluxgate Gradiometer for magnetic survey. This allows rapid surveys for magnetic anomalies as the fluxgates detect changes in the Earth's magnetic field within a small fraction of a second. Fluxgates only detect through their main axis, and if they are set vertically, they only detect the vertical component of the Earth's magnetic field, but that is fine in northern latitudes. The second installed fluxgate provides a signal which is subtracted from the first, so that any motional effects are cancelled out, and only the signal from static effects is monitored. The magnetometer requires the operator to be non-magnetic and to keep sufficient distance from any iron, such as a fence, or a car, to obtain real results. Each 20 metre grid is completed in 8 minutes. The need to be dressed non-magnetic, and its rapid operation, limits the number of people prepared to operate it.

The magnetometer detects minute changes in the Earth's magnetic field (50,000 nT), down to 0.1 nT , which may be caused either by intense heat re-setting the local field (detection of hearths) or intrusion of topsoil into an area of subsoil (detection of pits and ditches). The device will also detect water pipes as this produces interference in the magnetic field which appears as a line of light and dark stripes.

Resistance Meter

The other instrument is a TR/CIA twin-probe resistance meter. This involves slower and harder physical work to operate than the magnetometer, but requires no special dress and is not perturbed by magnetic problems, so it is more readily used by all operators. It sends a small electrical current into the ground, and collects the current at a remote probe. It also measures the voltage between probes to calculate an electrical resistance. It detects apparent increases in electrical resistance caused by the presence of high-resistance materials, such as stone, close to the probes on its mounting frame, and is thus complementary to the magnetometer in terms of survey, as it can detect masonry walls. The device requires typically 30 minutes to complete a 20 metre square. Its controls readily allow survey of part squares close to the edge of the survey.

Electronic Distancing Meter (EDM)

The EDM, (a Wild Distomat 1600), uses a laser to determine the distance from itself to a reflective target. Once a grid reference and compass bearing have been entered into it, the device can also provide Eastings and Northings. It can also measure height relative to itself. If this is taken from a local bench mark, it calculates height above sea level. Heights and positions of the points measured can be used to make a contour map.

The Survey

Work began on 9 October 2006 and finished on the 22 November. The team worked for 3 days a week, surveying the whole field with all the instruments. Both surveys showed positive results, but the magnetic survey was more successful as it showed that the field had a number of ditched enclosures.

Magnetic Survey

The team began work on the western edge of the field next to Mill Lane (figure 3). In this area there is a clear bank visible running east to west meeting another bank running north to south towards the centre of the field. These banks were excavated by Wedlake in 1953 and we can assume they were much more prominent then as the ploughing of this field in recent years will have eroded these features.

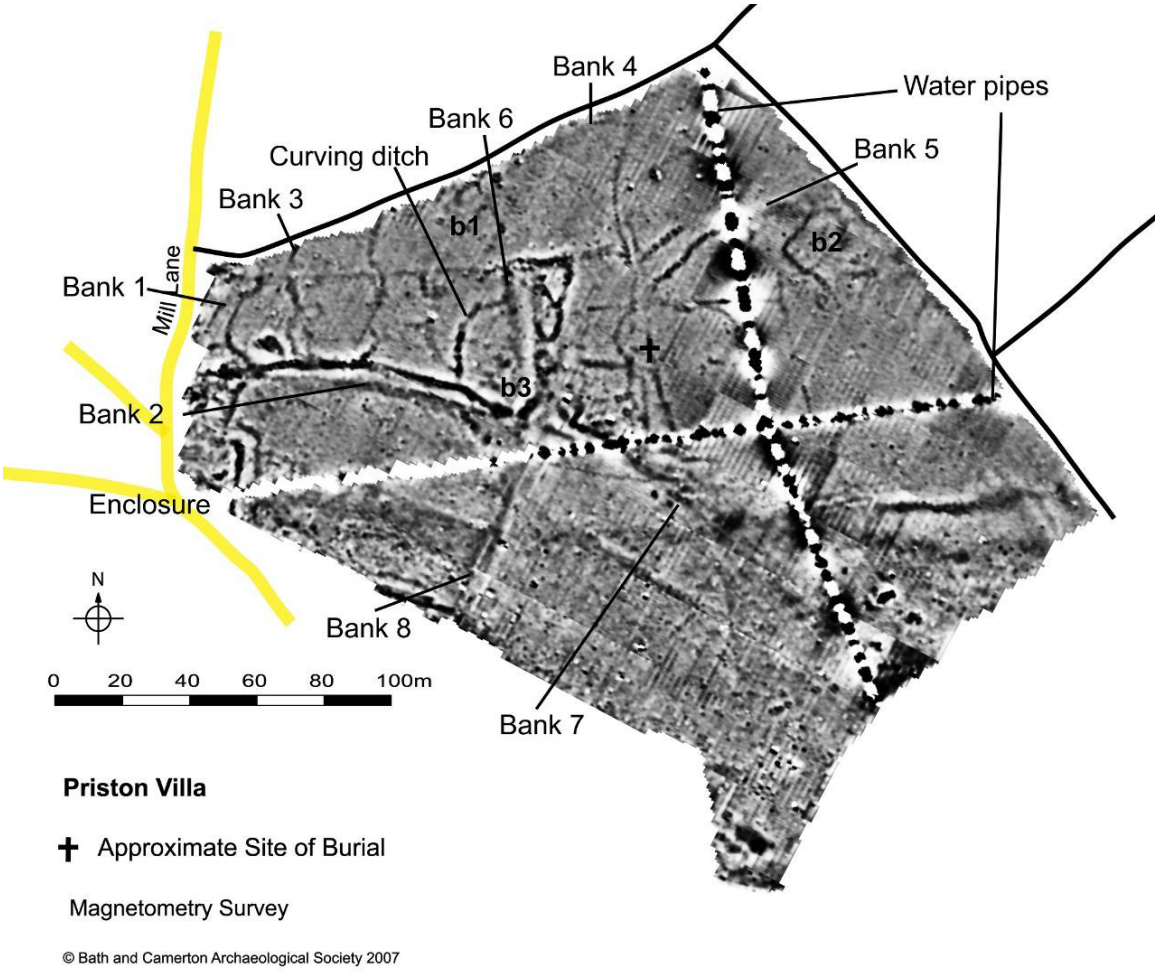

Figure 3: Magnetic Survey.

The most prominent features on the survey are the water pipes that cross the field to serve the cattle drinking troughs. This striped effect is typical of the interference that running water will cause to the instrument. The magnetic survey shows that there is a very prominent ditch running east to west to the north side of bank 2 (see also Wedlake's plan, figure 2) and a less prominent one running north to south that intersects towards the centre of the field (banks 6 & 8). To the north of the double ditched bank there is a much fainter ditch running from east to west that appears to run to the end of the north-south features and a little beyond reaching the point where two tracks meet (banks 3 & 5). There appear to be field drains running away from this feature and it may be a later field drainage ditch. There is also a small double ditched enclosure in the south west corner of the field with signs of significant magnetic

activity. This may indicate settlement as this type of activity can be associated with occupation. The date is impossible to determine as no excavation has been done in this part of the field.

The ditch on the north side of bank 2 extends beyond the north-south bank, but there is the strong suggestion of a curving corner at this point. A number of ditches and banks meet at this point. The complexity of the anomalies at this point suggest that the enclosure was of more than one phase and that there may be earlier features hidden by later developments. The curving ditch that appears to have been cut by the bank and ditch supports the possibility that there is an earlier feature here. There are a number of curving ditches to the north of the corner which also suggest more activity. The strong anomaly that turns north at the corner, bank 6, excavated by Wedlake, appears to be a road that has been truncated by a ditch at its northern end. There are also a faint rectilinear features which may be buildings in and around this area indicated by the complex activity here, (b1 on the plan) aligned on a northwest to southeast alignment at the end of this track.

To the east of these features there is fainter ditch running north to south which has a curious deviation where the cross showing the site of the coffined burial. This is highly suggestive of a small cemetery. Above this feature and to the west there appears to be a double ditched trackway, but this is obscured by the water pipe and cannot be traced beyond this point. There are further curvilinear anomalies to the east of this small enclosure with a faint line running north to south to the east of the water pipe. These may be field or enclosure boundaries associated with the settlement. A rectilinear feature (another possible building, b2), and possible pits or areas of burning are also shown in the northeast quadrant, and are aligned with the track.

The survey on the southern side of the field is less clear, but there are some pits or burnt anomalies in the south east quadrant and a few more towards the bottom of the narrow southern extremity. There are fainter ditches which traverse the entire field from east to west. These are probably medieval strip fields and compare with other field systems known around Priston. It is highly likely that the earlier enclosure was incorporated into the later field system.

Resistance Survey

This survey is less clear than the magnetic survey as there are fewer stone anomalies within the field. However it is entirely complimentary with the magnetic survey. The high resistance of the two clearest banks in the field are very obvious (banks 2, 6 & 8). The concentration of high resistant features around where these two banks meet is also very clear and may represent the presence of a building or occupation (b3). The faint outlines of possible buildings may be shown in the corner of this enclosure, but they are far from clear.

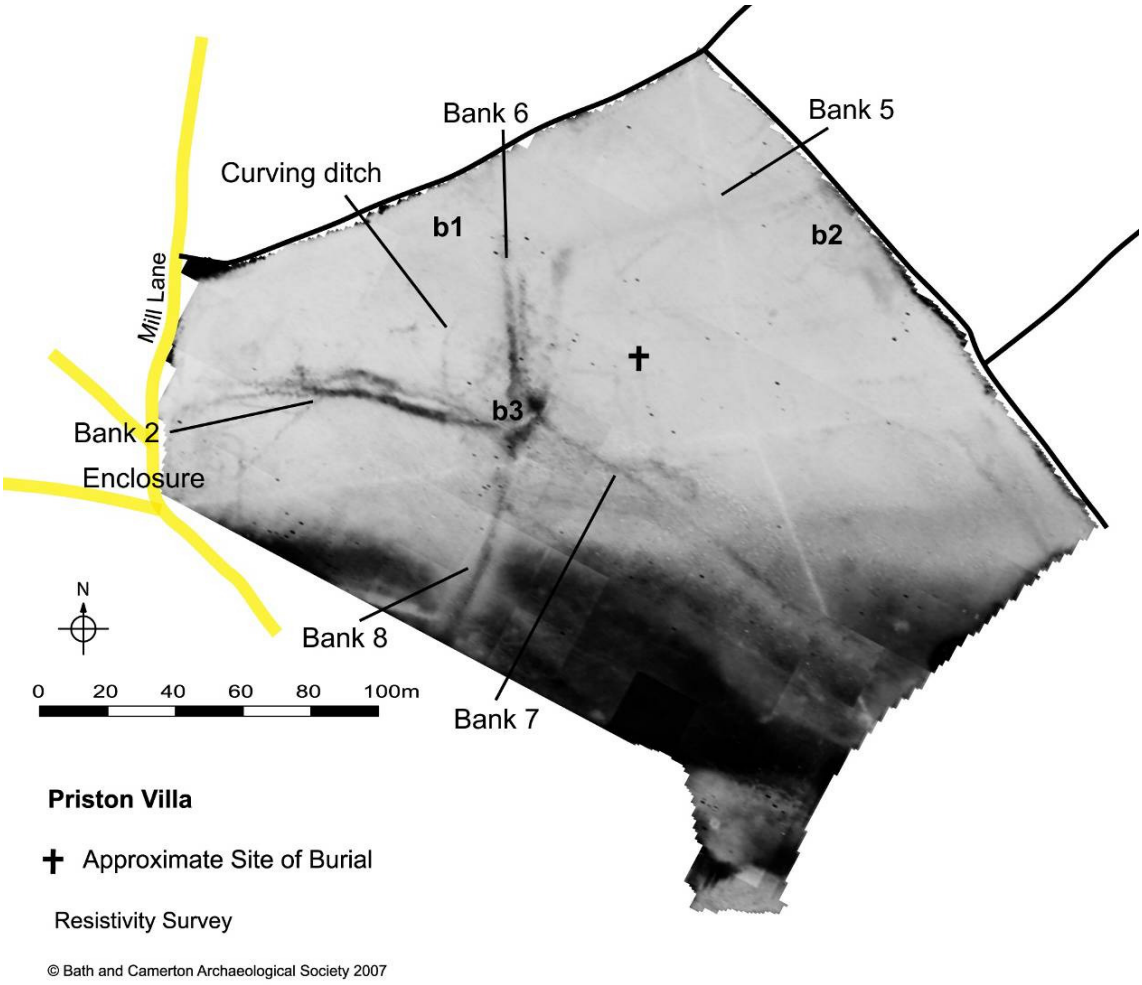

Figure 4: Resistance Survey.

The area of the double ditch enclosure in the southwest corner also shows in this survey as faint lines where stone has probably been deposited in the fill of the ditches.

The high resistance of the southern end of the field is mainly due to the natural stone on this steep slope, and this hides any features that may be here. Early OS maps show a track running along the edge of the ridge between Hill Farm and Mill Lane; this will not show in such high resistance conditions.

There are also faint high resistant anomalies to the east of the banks consistent to both surveys in the areas of b1 and b2. These may represent buildings or small enclosures.

When these surveys are combined you can see how the features coincide with each other giving clear areas of intensive activity around the point where the two banks meet.

Discussion

The geophysical surveys of this field were commissioned by Priston Millennium Committee because of the interest in the previous work that had been carried out in the area. They have shown that the field contains some ditched enclosures and faint traces of occupation. When they are evaluated in the light of the work done by Wedlake in 1953 and the coffin discovery in 1917 they can contribute to our knowledge of the archaeology of the field.

Figure 5: Combined Surveys.

Although the precise location of Wedlake's trenches are not known we do know on which bank he excavated which trench and have the results of those excavations, including a list of finds from each context. If we combine his findings with the geophysical survey we can make some fairly accurate assumptions about the date and nature of some of the features in the field. It is clear from his excavation that the banked and ditched enclosure with the rounded corner near the middle of the field produced evidence of early Roman activity, with finds of early Roman pottery and Samian ware of the 1st and 2nd centuries. He also found a few sherds of early Iron Age period pottery in a number of trenches, suggesting residual material of an earlier period. Wedlake also dug a trench across the roadway to reveal a cobbled surface associated with Roman period finds. He also discovered that the road appeared to have wall footings running either side of it and this is confirmed by the resistance survey which shows these walls. He suggested that this road led to a roughly constructed stone building, but our surveys are very inconclusive. There is a suggestion of a roughly rectangular feature (b1) on a slightly different alignment to the track end in the magnetic survey; this may be his building. The trenches that he dug through the road and the bank all supported a Roman date. He may have excavated a long cutting to extend from his bank 5 to the southern end of the field in order to see if there were any more

burials. If our survey shows that the burial was associated with the small enclosure to the east of the road then he would have been on the wrong side of this enclosure to pick up further burials; this may have been as a result of misplacing the measurements supplied by Calvert (1917). Our measurements placed the burial within this enclosure and there is some suggestion on the survey of other pit-like features in this area.

Wedlake's excavation of the bank that shows only as a fainter line from the corner of the enclosure, running southeast (bank 7), indicated that this bank was a much later feature with no ditch and no recorded finds. He also established that the bank in the northwest corner of the field near the water trough was a much later feature, containing evidence of 18th and 19th century activity.

Conclusion

The survey along with analysis of Wedlake's excavation suggests that there is Roman settlement within Great Croft Field, however our findings strongly suggest that this area may not be the main focus for the settlement and that more occupation evidence may be found in surrounding fields. The type of enclosures and ephemeral buildings along with the burial tend to suggest that this area was on the edge of the settlement rather than the centre. Wedlake did not find very convincing structures and the survey also confirms this, but the banked and ditched enclosure is very substantial with a flurry of activity in the south west corner. This activity looks as if it may extend beyond the bounds of this field, into Mill Lane and, possibly into the field known as Town Hill. The name of this field and the fact that earthworks have been recorded here suggests occupation in the past. The map of Priston compiled by Mike Chapman in 1991 suggests that the banks and ditches in Great Croft may be part of a bigger enclosure around the junction where the lanes meet. Field systems and droveways appear to converge at this point and look more Pre-historic in nature than Medieval. This may the focus of the earlier settlement at Priston with the activity in Great Croft being on the periphery of the site, hence the finding of the burial in this location. Further geophysical surveys in surrounding fields would help to establish this theory.

Figure 6: The Surveys superimposed on the Priston Map by Mike Chapman.

References

Chas. J Calvert *Somerset Archaeological and Natural History Society: Proceedings of the Bath Branch 1914-18.* (p. 249-250)

Mike Chapman *Priston Map, 1991*

Peter Hardy *The Geology of Somerset, 2002*

William Wedlake *Papers in Bristol Museum, 1953*