YCCCART 2019/ Y3

Geophysical surveys at Ham Farm, Yatton and Kenn, 2018 (interim report)

YATTON, CONGRESBURY, CLAVERHAM AND CLEEVE ARCHAEOLOGICAL RESEARCH TEAM (YCCCART)

General Editor: Vince Russett

Setting up the gradiometer on a nippy winter's day

Page	Contents

Abstract

Gradiometer surveys over land to the NE of Ham Farm, Yatton, revealed a network of magnetically enhanced linear features, assumed to be ditch complexes, with features inside the ditch enclosures indicating domestic and / or industrial activity. It is highly likely that this activity dates to the Roman period

Acknowledgements

A Heritage Lottery Grant enabled the purchase, by YCCCART, of a Geoscan RM 15 resistivity meter and a Bartington Gradiometer 601 without which this survey could not have been undertaken.

This survey would also not have been carried out without the willing permission of the landowners, David and Michelle Crossman, Ham Farm. The use of their raised area to park was much appreciated in the wetter weather.

The authors are grateful for the hard work by the members of YCCCART in performing the surveys and Vince Russett for editing.

Work referred to by NSARG in this report has not been formally published: YCCCART remains grateful to Derek Lilly and Dave Long for making field records and photographs available to us.

Introduction

Yatton, Congresbury, Claverham and Cleeve Archaeological Research Team (YCCCART) is one of a number of Community Archaeology teams across northern Somerset, formerly supported by the North Somerset Council Development Management Team.

Our objective is to undertake archaeological fieldwork to enable a better understanding and management of the heritage of the area while recording and publishing the activities and locations of the research carried out.

Site location

Fig 1: Location of surveyed fields

The fields surveyed (nos. 7, 8 and 9 in Fig. 1) form a contiguous block of land 7.26Ha (19.9 acres) in size. They are centred on ST42246784, some 600m NNE of Ham Farm, in the parishes of Yatton (Field 7) and Kenn (Fields 8 & 9), although all were in Yatton at the time of the Tithe Map (1840) and before. The area lies in North Somerset, and some 2.5km SSE of the southern edge of Clevedon.

Land use and geology

The land is largely flat, and lies on the alluvium of the Northmarsh, which here is a very thin layer over the peat deposits below, lying as it does almost at the inland edge of the post-Roman alluviation. Solid deposits of the Mercia Mudstones are not far below the surface, especially close to the southern edge of the survey area.

Field 9 is under permanent pasture: fields 7 and 8 were under pasture at the time of survey, but are periodically ploughed for arable.

There is no public access to the area.

Historical & archaeological context

This area has been investigated before. In 1959/60, North Somerset Archaeological Research Group carried out trial excavations in the area, and exposed the Roman corn drier (see below).

In 1994 and 1995, Dr (now Prof.) Stephen Rippon excavated 11 small evaluation trenches in field 8 and 9, and carried out fieldwalking.

In 2016 and 2017, YCCCART carried out geophysical and terrain modelling studies in the block of fields between this study area and Kenn Moor Road (Fig 1).

Little or nothing is known of the prehistoric archaeology of this area: past investigation has been targetted on the Roman period.

The site at Kenn Moor was first excavated by the North Somerset Archaeological Research Group. In 1959 they trenched the sub-rectangular mound on the northern edge of the relict landscape, revealing a stone structure interpreted at the time as a corn-drier.

In 1960, earthmoving in Field 5 to the south revealed a number of 'floors' and 'pits', and the two trenches that were subsequently dug revealed several spreads of stone, one of which appeared to be a collapsed drystone wall. In 1962 two further small excavations investigated slightly raised areas which probing indicated were also associated with stone rubble.

The southern trench revealed an inhumation which, from the waist upwards, was enclosed in a roughly built cist of stone slabs just c. 0.1-0.15 m below the present ground surface. A second trench revealed an inhumation lying on, and partly sealed by, a spread of stone rubble c. 0.1-0.2 m below the surface. This burial, and the associated rubble, was said to have lain on a slightly raised and possibly ditched mound. Both burials appear to have been oriented roughly north-south (Rippon et al, 2000).

Fig 2: Grey Usher's (NSARG) map of the area around fields 7, 8 and 9, probably from c1960. Hatching represents spreads of RB pottery: lines of dots suggested Roman tracks. The significance of the red circle is unknown. It should be noted that field 7 was then in two fields, the intervening ditch being removed in 1960.

Few records now survive of the 1950s work, although a partial plan of Derek Lilly's

survives (Fig 3 below).

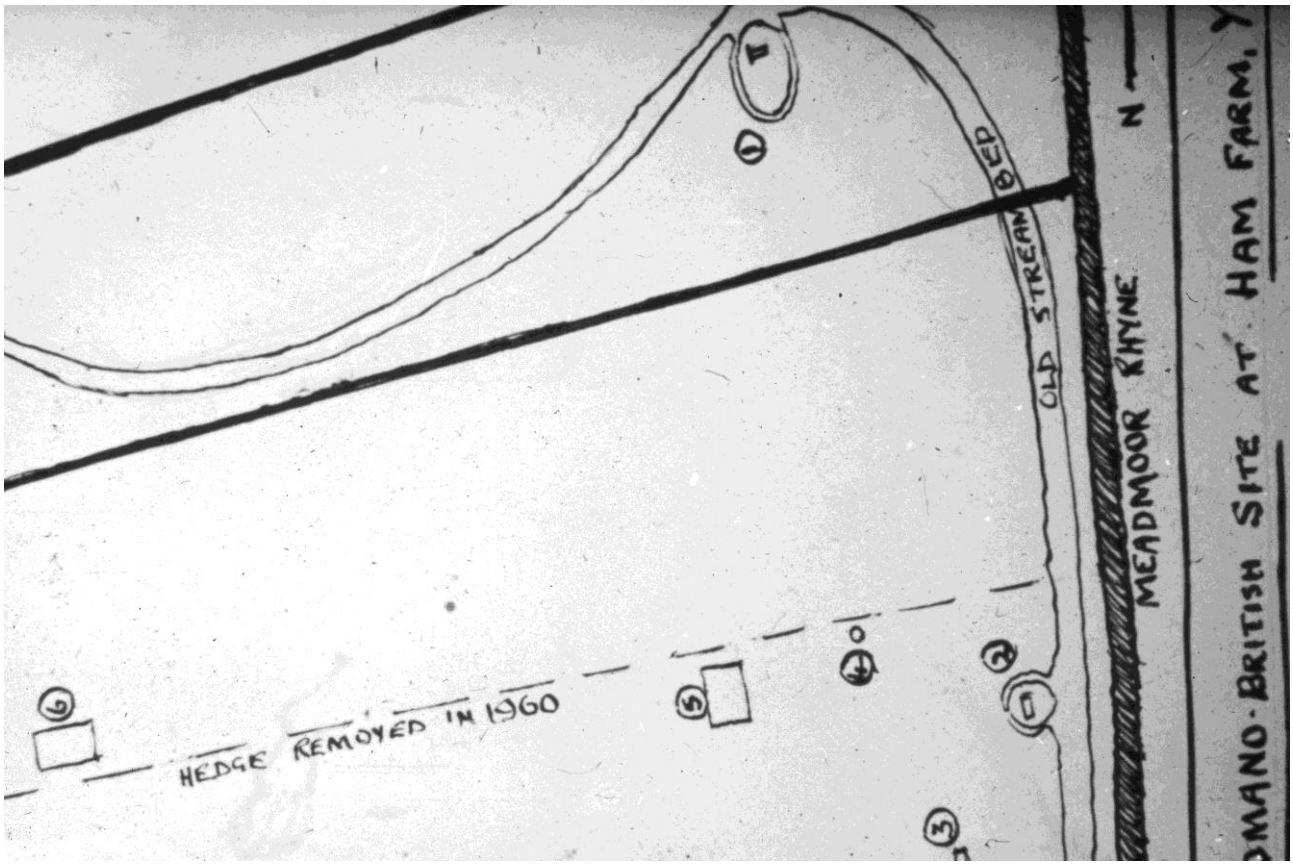

Fig 3: NSARG partial map of archaeological interventions, 1959 - 60, in fields 7 and 9. Item 1 is the corn drier, and 2 appears to be one of the inhumations.

Fig 4: Roman inhumation, from site 2 in Fig 3 (ST4233267777)

The second inhumation was shown as site 3 in Fig 3. This is the site where the OS recorded the second burial on the 1973 OS 1:2500 plan, although the label in the photograph clearly says '7H'. This is no longer resolvable.

Fig 5: The second Roman inhumation, recorded by the OS at ST4231367760

In addition, the corn drier in field 9 was thoroughly excavated and cleaned out.

Fig 6: The corn drier in Field 9, excavated in 1959-60

Stephen Rippon's work is not integrated into this report, and it is anticipated that this will be included in the final report (and after discussion with Steve).

Fig 7: Fields 7 - 9 from the north, c. 1980. The corn drier is the rectangular ditched structure close to the centre of field 9 (foreground). The grypes in field 7 are underlain by another system of parallel ditches, of uncertain date.

All indications are that Roman settlement of the Northmarsh ended fairly rapidly at the end of the 4th century. Sites like Wemberham Roman villa in Yatton (see reports on this site), occupation at Banwell Moor (Rippon 1996: 39), at West Wick (CA 2004) and various other sites were buried by varying depths of alluvium.

The Northmarsh would have partially lapsed into saltmarsh, which is a landscape that would be used in a very different way. When records become available in the late Saxon period, some Northmarsh manors (such as Kingston Seymour) are comparatively wealthy and may have reintroduced large scale arable farming by the time of Domesday in 1086.

In other areas (such as Kenn and Tickenham Moors), enclosure did not occur until the early 19th century, and there is some evidence of hostility towards such enclosure: two locals (John Smith and Thomas Beakes), for example, chose to damage the new decoy pool at Kenn Moor being constructed by Lord Poulett in 1635 ('..it was for the good of the Countrie..') (SHC Q/SR/72/76).

The use of common rights on the open moors was jealously guarded, providing grazing,

fish, hunting, reeds and sedge for thatching and floor covers and many other commodities.

The area under survey, however, does appear to have been enclosed long before the adjacent Kenn Moor: having been a common called Mead Moor (presumably valued for hay from its name), it seems to have been enclosed (possibly in the late medieval period), although the fields all still bear the name Mead Moor on the Yatton Tithe Apportionment. The adjacent Mead Moor Rhyne formed the boundary of Kenn Moor for some centuries.

Fig 8: Survey area in 1799 from Yatton map (SHC DD/SAS/C212/MAP/167). Note the still open Kenn Moor to the right of the survey area

Lidar coverage of the area (Fig 9) reveals just how flat the terrain has become due to 20th century agricultural practice.

This is a commonplace across England: for example, RAF photographs of the 1940s show whole parishes in the Cotswolds around Cirencester covered in the earthworks of ridge and furrow from medieval open-field agriculture, but by 1989, this had virtually entirely disappeared (Russett 1989).

What is clear from the lidar is that field 9 has hardly been ploughed (if at all) since the earthworks of the corn drier and its associated palaeochannels survive largely intact. But note that the earthworks are less than a metre from high to low (see scale).

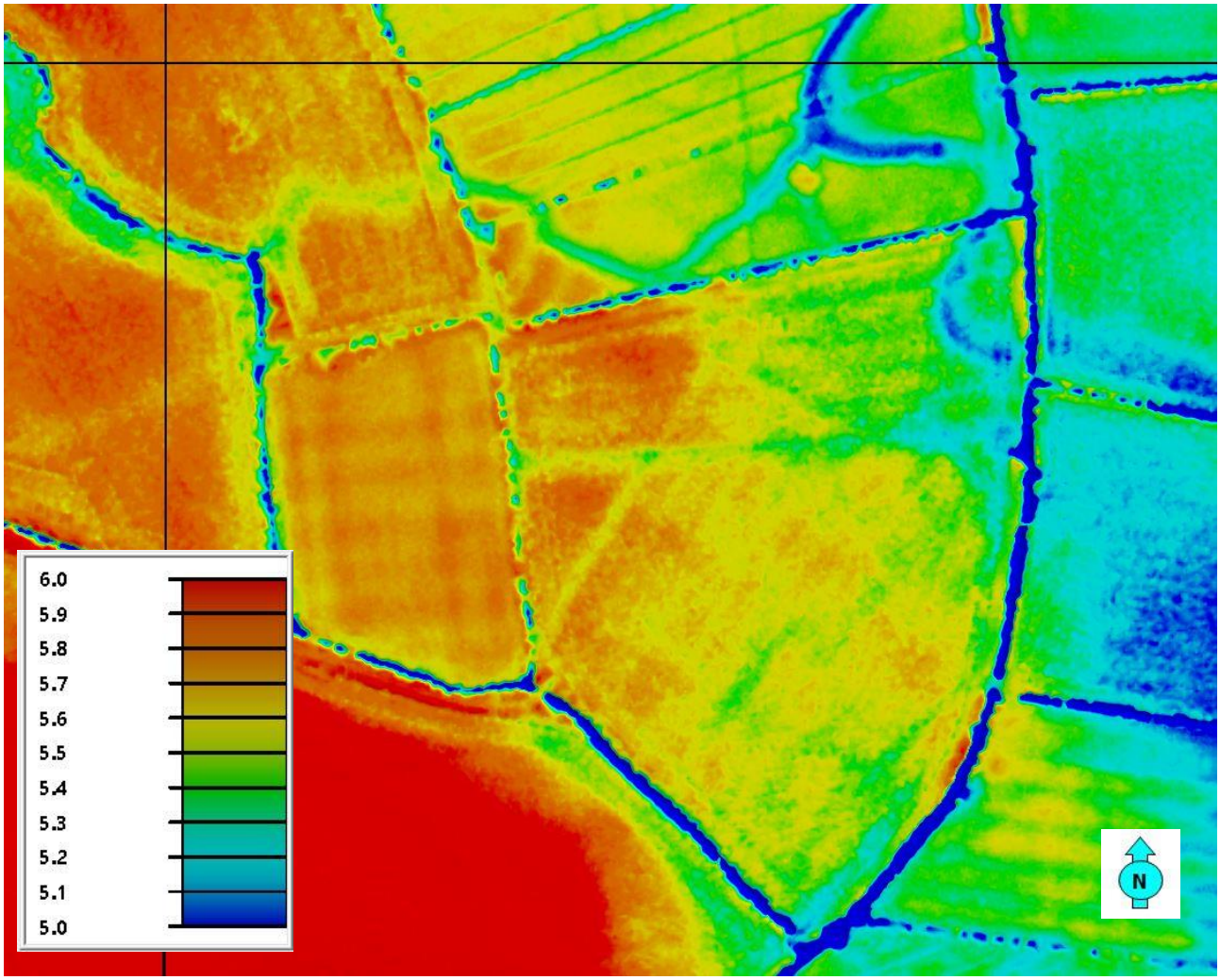

Fig 9: Lidar image of fields 7-9 (scale refers to metres AOD)

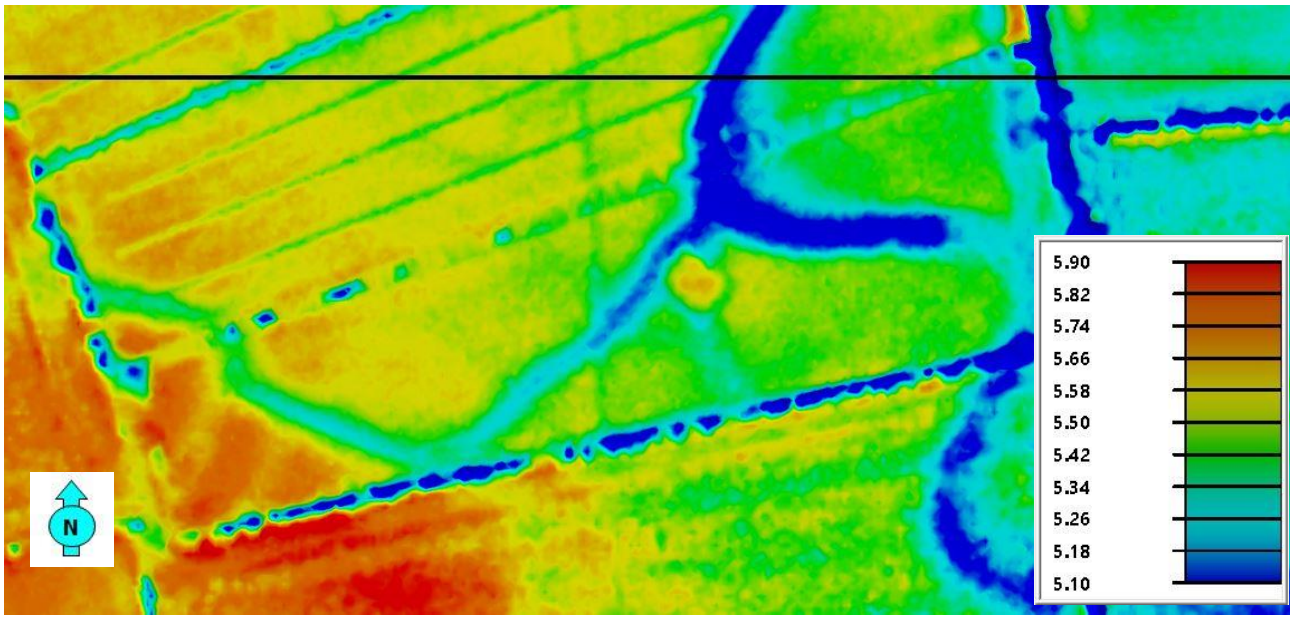

Fig 10: Lidar image of earthworks in field 9

Survey objectives

The objective was to use gradiometry (and potentially, targetted resistivity) to check for further Roman activity in these fields, continuing the good results obtained in fields adjacent to Kenn Moor Road, surveyed previously

Methodology

The survey of the fields was undertaken during 2017 and 2018 by teams from YCCCART using a Bartington 610-2 gradiometer, and a Geoscan RM-15 resistivity meter.

The completed survey was downloaded to the TerraSurveyor programme and the resultant composite adjusted using the following filters:

Resistivity

Band weight equaliser
Grad shade
Despiked
Clip SD2
High Pass filter.

Gradiometry

Colour - Red Blue Green 2
Band weight equaliser
Grad shade
Destriped
Despiked
Clip SD2

The report was written in Libre Office 5 Writer.

Results

Fig 11: Gradiometry results for fields Crossman 2-9 and Simmons 1 & 2. The three western fields are the subject of this report: reports on results for the others can be seen on this site.

This breathtaking image of gradiometry results from 2017-18 over a large area of countryside illustrates well the benefit to be gained from studying an area, not just a

single site, putting findings in individual fields into context

Fig 12: 'Quiet zone' through the centre of the extensive survey (between the red boundaries)

Notable in Fig 11 is a wide band of land that seems different to the areas on either side in its response to gradiometry. South-west of Kenn Moor crossroads, it manifests as an area slightly lower in relief than the surroundings

Fields 7 and 8

These fields are dealt with together, as vital features in the gradiometry cross the boundary between the two. Field 8 has been more intensively ploughed than field 7, already being described as arable at the time of the Tithe Map in 1840.

The 'quiet zone' discussed above, divides field 7 into three distinct zones: a southwestern zone, with 'normal' alluvial features, such as palaeochannels and other features, the 'quiet zone' itself, only revealing detail of some linear features, and the north-east zone, where 'normal' alluvial features re-occur. The south-western zone continues into field 8, and some features clearly cut the boundary between them.

Fig 13: Gradiometry results, fields 7 and 8

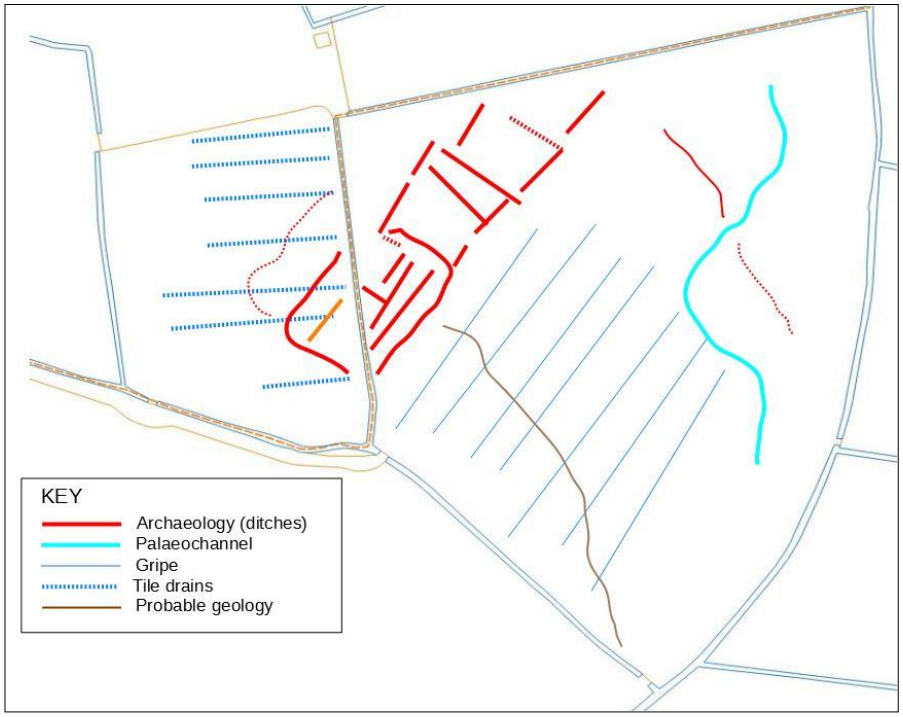

Fig 14: Interpretation of results

These results show the normal alluvial 'swirl' features, arising naturally from the formation of the alluvium, in the southwest and northeast zones. These features do not occur in the rest of the 'quiet' zone.

Prominent recent features are the tile drains in field 8 (shown in a 1975 air photograph to have been laid that year), and the post-medieval gripes in field 7. These can be identified from the lidar plot (Fig 9): the underlying off-set parallel ditches no longer show in lidar or gradiometer results.

A large palaeochannel is visible in the northeast zone, and is also clear in the lidar and air photographic evidence. This continues into field 9 (see below). While obviously visible on the ground in 1959-60 (Fig 3), it is hardly visible today on the ground in field 7.

Two linear features on either side of the 'quiet zone' are parallel to its edges, and thus most likely geological in origin.

The archaeologically interesting features are the group of magnetically enhanced linear features overlapping the boundary between fields 7 and 8 (red in Fig 14: dashed red lines are probably similar features).

These features are almost certainly ditches: they seem to form enclosures in a SSW-NNE band. They are more blurred (due to ploughing) in field 8, but are detectable.

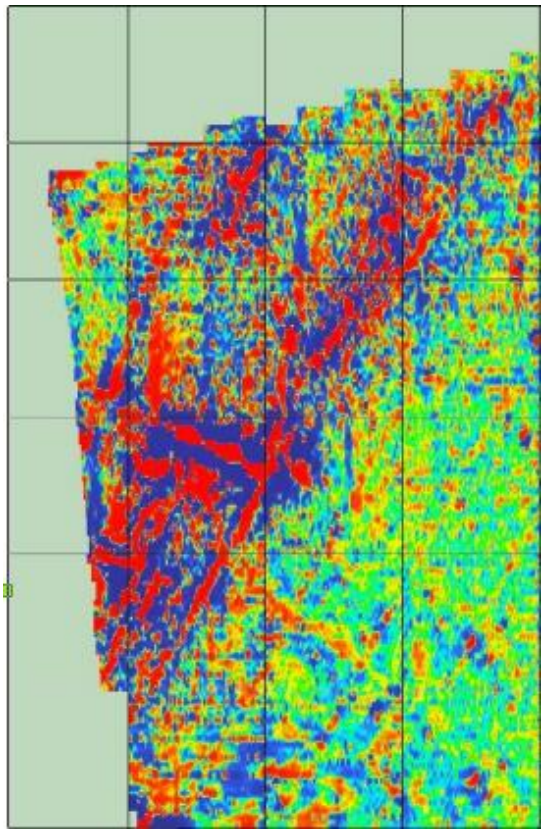

Fig 15: Close-up of the 'enclosure' features in field 7.

These show heavy magnetic enhancement in the linear features / ditches, with similar smaller interior 'blobs' to those encountered to the south-east (in fields Simmons 1 & 2: see report on this site), and there taken to be evidence of occupation / industrial activity. This seems most likely here, as well. Further discussion will follow in the final report.

Field 9

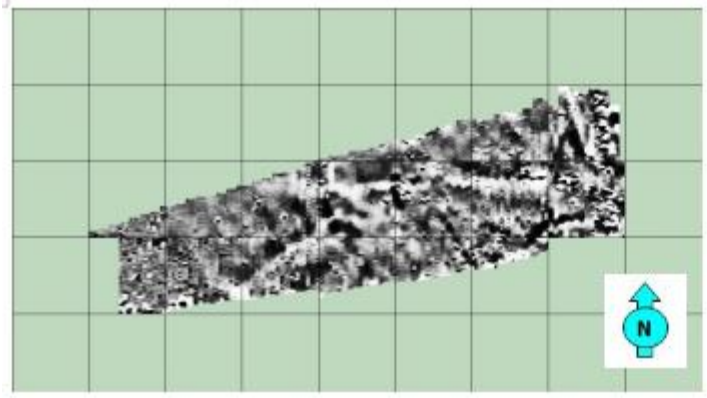

Fig 16: gradiometry survey of Field 9 (monochrome)

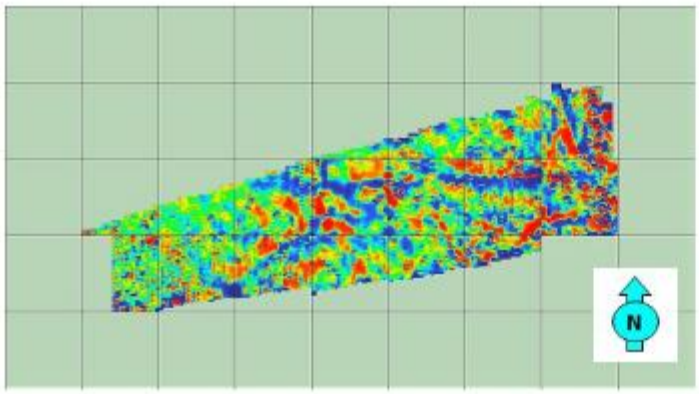

Fig 17: Gradiometry survey of Field 9 (colour)

The major features in this field are visible on air photographs, lidar and in the gradiometry. The corn drier (as would be expected) shows in the surveys as a magnetically enhanced signal (from burning), and the scatter around it probably implies some other activity or occupation at the site.

The magnetic enhancement in more or less the centre of the field is due to processes invisible to other methods of detection: these may imply a continuation into what is now field 9 of the industrial / occupation activity in field 7. Evidence at the eastern end of the field is confused, possibly by what appears to be a buried pipe running parallel to the field boundary, although some of the signal is probably from material tipped to make up the gateway of the field.

Resistivity

This was confined to a small area of field 7, to test the hypothesis that the features seen in the gradiometer survey were ditches.

Fig 18: Location of resistivity survey in Field 7

Comparison of Fig 18 with Figs 13 and 15 (above) illustrates that while resistivity does pick up some elements of the features found by gradiometry, it is not consistent enough to make more effort worthwhile.

In Fig 13 above, the resistivity results do show a right-angled high resistance feature coinciding with the outer edge of the gradiometry features: ironically, while the ditch backfilled in 1960 does not show at all in the gradiometry, it is clear in the resistivity results!

Conclusions

As seen in the gradiometry complex in the NW corner of Kenn Moor crossroads (see report on this site), there is evidence of pre-enclosure activity on a large scale, almost certainly involving domestic and/or industrial activity. Although obviously not directly datable from the gradiometry survey, previous work by NSARG and Rippon makes it highly likely that these features are Roman.

A puzzling feature of this survey is that none of the earthworks or features found by Rippon (for example) appear in the gradiometer survey. Assuming those features are Roman, the only assumption that can be made is that they do not reflect prolonged domestic and/or industrial activity in the Roman period.

Recommendations for further work

These will be incorporated into the final report

References

Rippon, S. J. 1996	*Roman and medieval settlement in the North Somerset Levels: survey and excavation at Banwell and Puxton 1996* Archaeology in the Severn Estuary 7: 39
Rippon, S. J. et al 2000	*The Romano-British Exploitation of Coastal Wetlands: Survey and Excavation on the North Somerset Levels, 1993-7* Britannia, Vol. 31: 69-20
Russett, V. E. J. 1989	*Cirencester by-pass: An initial assesment of the archaeological impact* Unpub report in Gloucestershire HER

Author:

Vince Russett

Date: June 2019

May 2019