YCCCART 2017/Y4

An earthwork enclosure off Moor Lane, Yatton: geophysical surveys

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

General Editor: Vince Russett

Setting up the 601 survey on a very cold winter's day

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Abstract

An enclosure near Moor Lane was first noticed on lidar images of the Yatton area. It clearly pre-dated the local hedged enclosures. Geophysical surveys revealed little or no internal structures, and the enclosure is potentially a medieval stock enclosure, with a possible role in the management of pre-inclosure Kenn Moor.

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 landowner, Mr Graham Burdge.

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

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

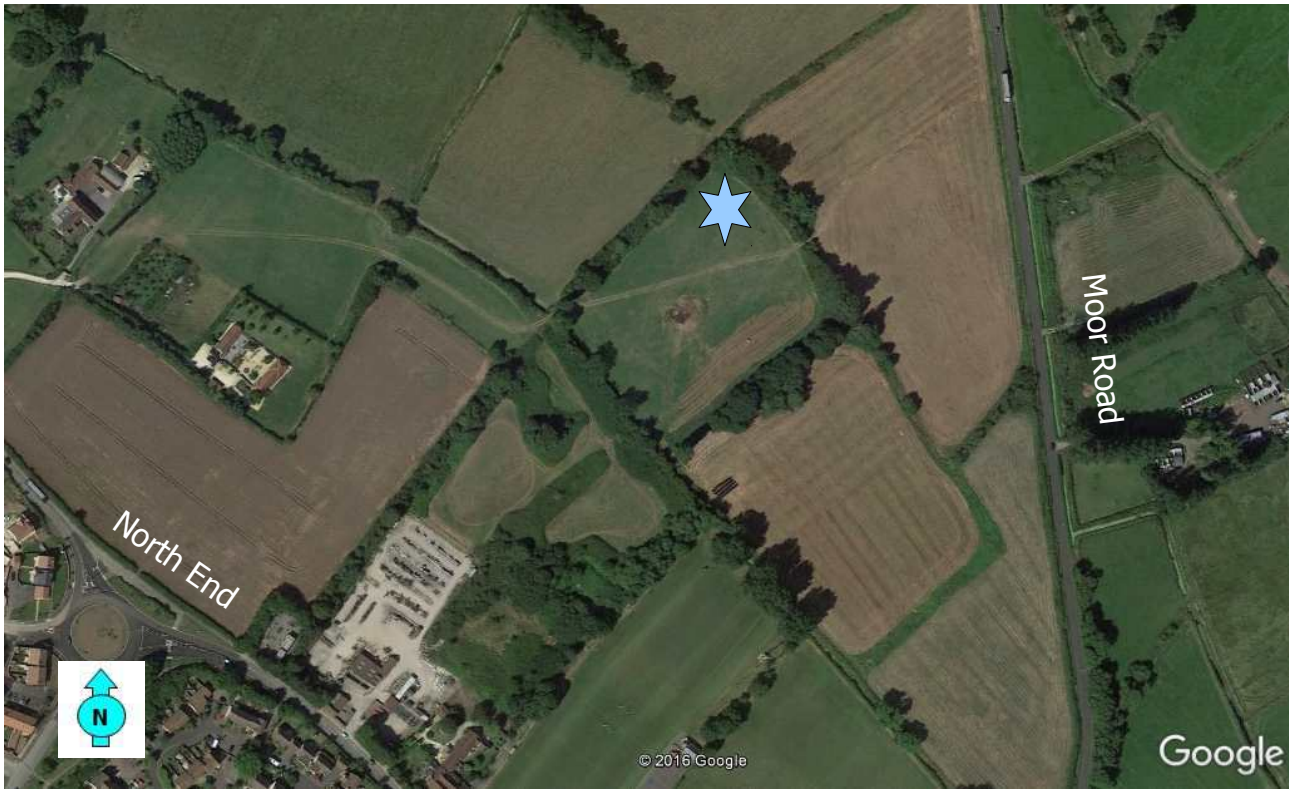


Fig 1: Location of the enclosure

The enclosure lies at ST42506696, some 400m north of Weeping Ash Farm, in the parish of Yatton, in North Somerset.

Land use and geology

The site is currently under pasture, and used for grazing. It lies on a protrusion into the lower land to the north and east, an alluvial terrace on top of the Mercia Mudstone ridge which underlies most of the village of Yatton. To north east and west, the ground immediately falls away to the peat of Yatton Moor. A gas main, inserted in the early 1980s and doubled in 2001, runs through the field.

There is no public access to the site, but the field can be clearly seen from Moor Road.

Historical & archaeological context

The enclosure was first recognised on lidar data in 2015.

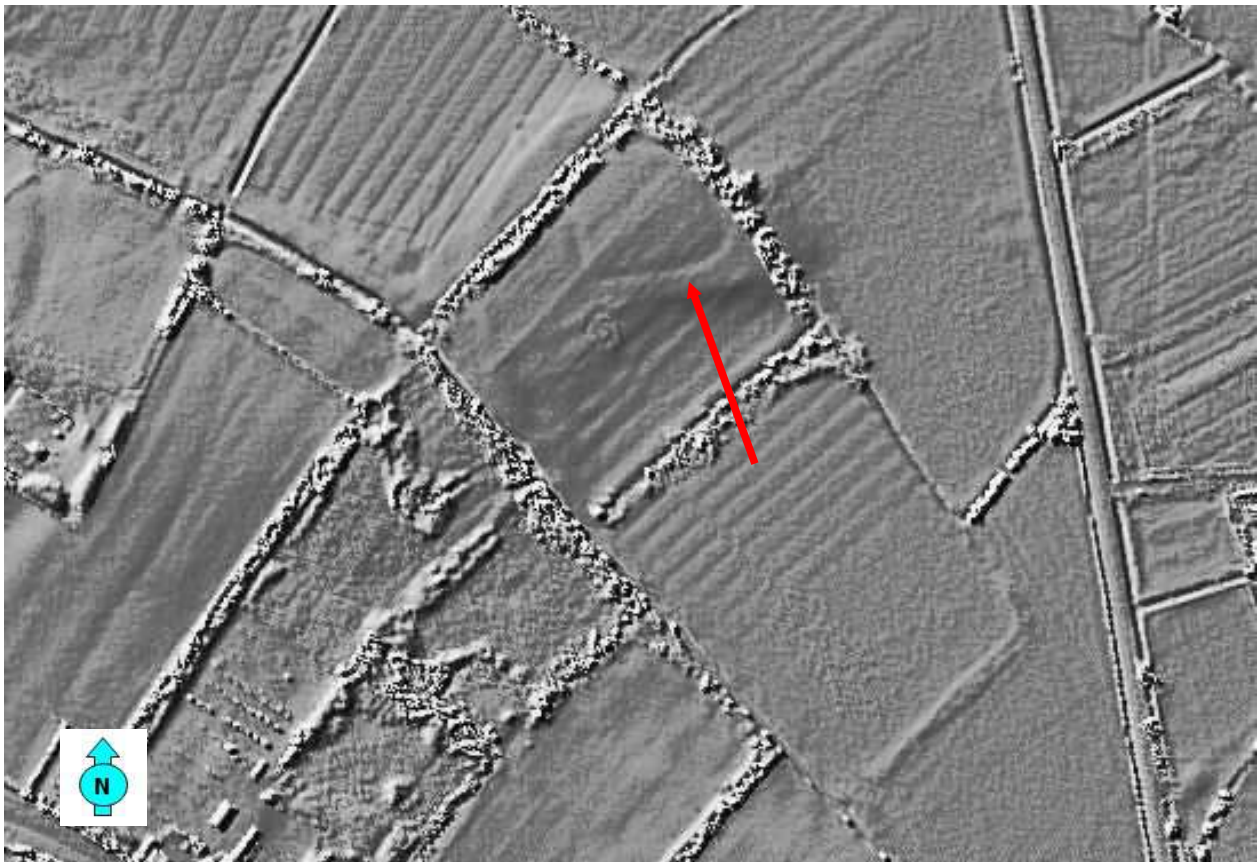


Fig 2: Enclosure (arrowed) in monchrome lidar (https://houseprices.io/lab/lidar/map)

The enclosure was D-shaped, curved to the east, and was certainly earlier than the hedges surrounding the current field. It obviously stood on a raised area of land almost completely surrounded by the moor below. The enclosure was 70.9m wide, and 64.5m north to south. There is no obvious entrance visible.

Unlike the fields around, the enclosure field has no grypes in it, although there is a thin linear bank with parallel striations alongside it, running over the enclosure, implying that it has been ploughed over in the past.

Enhancing the lidar data in QT Reader gave slightly better results (Fig 3), with the data indicating the enclosure lies at c 6.6m AOD, and no obvious signs of an entrance, although this may be hidden under one of the hedgebanks.

Both images show clearly there is now no accompanying bank to the enclosure, and there do not appear to be any internal structures, the ditch enclosing the highest part (by 0.2m) of the raised area of land.

The field surveyors remarked on how deeply cut the Stowey Rhyne (which cuts off the high ground of the enclosure) was at this point, on which further below.

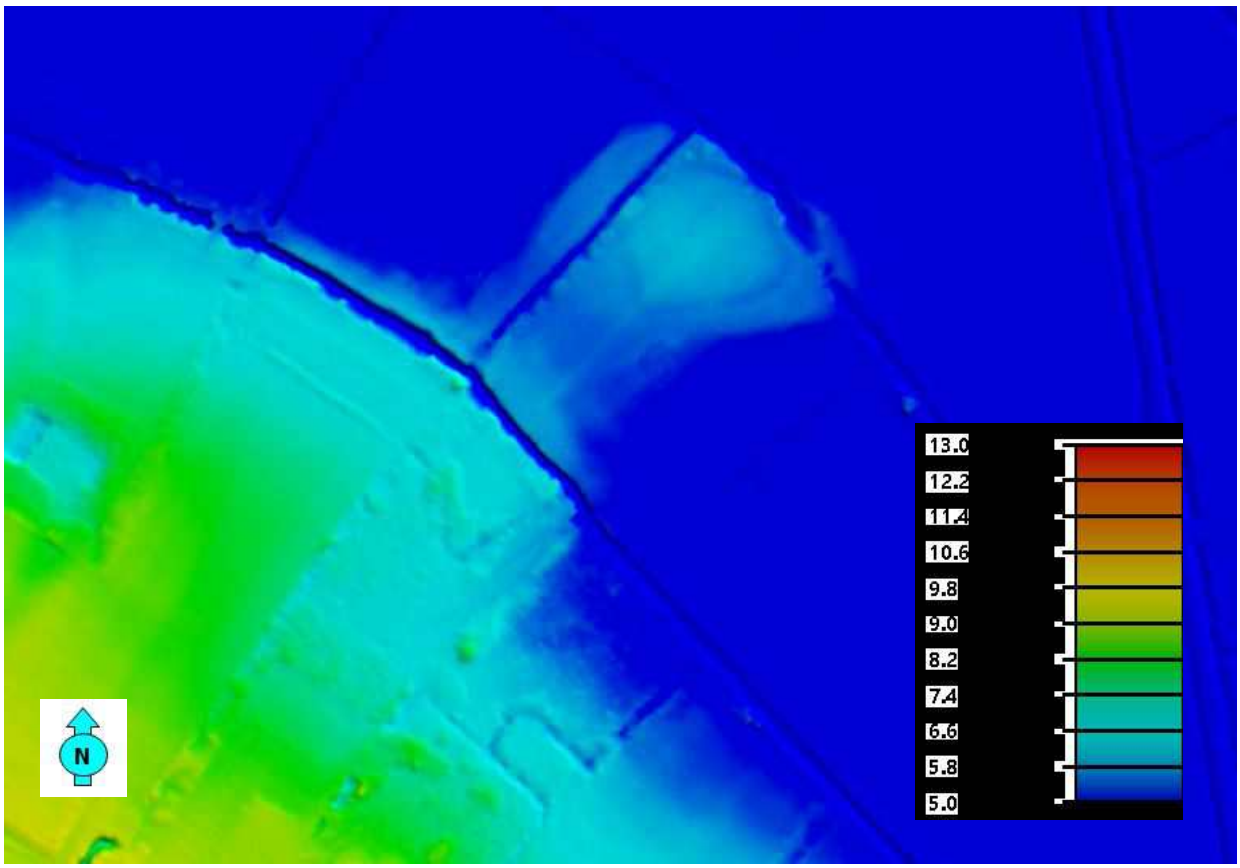


Fig 3: Lidar data processed in QT Reader (data from https://data.gov.uk/dataset/lidar-composite-dsm-1m1). Scale in metres AOD

Fig 4: Site from the 1799 map of Yatton (SHC DD\SAS/C212/MAP/167) (site starred)

The structure is not shown on any known maps of Yatton from 1799 to the present. The field is named 'The Batch' on the 1821 survey of Yatton (see Fig 4).

Looking at the site in a slightly wider context (Fig 5), it is possible to trace the sequence of enclosure in the area.

Fig 5: The site, North End 1799 SHC DD\SAS/C212/MAP/167) (site starred)

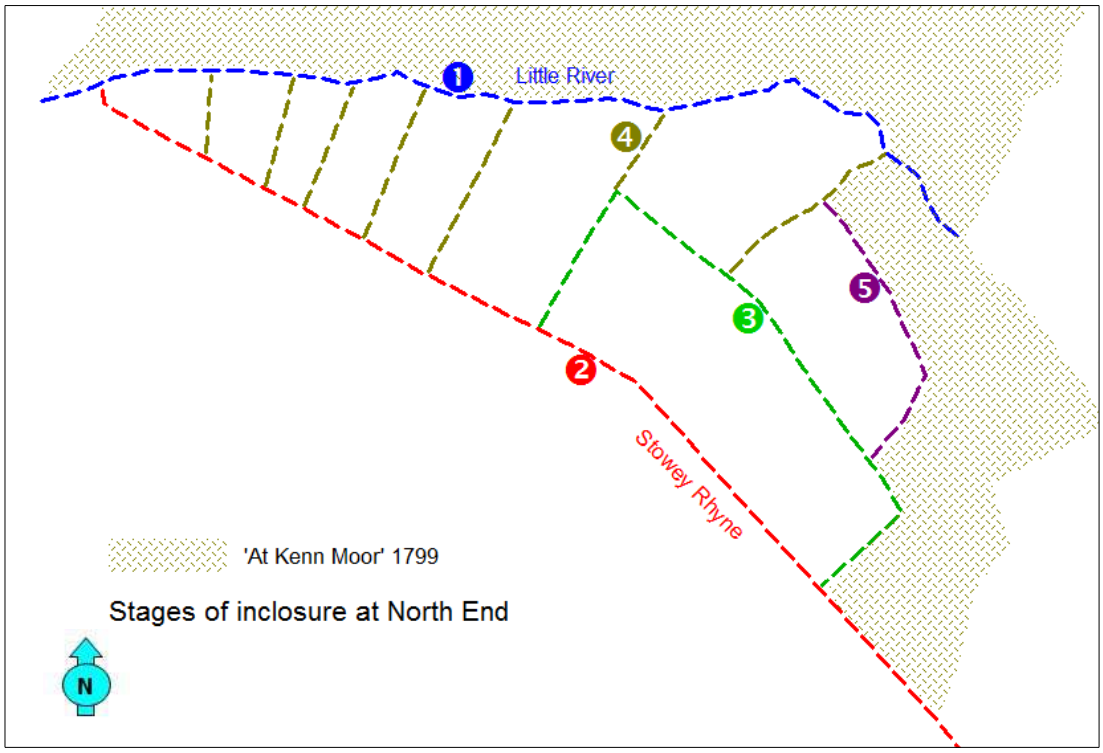


Fig 6: The process of inclosure at North End, Yatton

To attempt to place the structure in context, analysis of the current landscape (mainly using T-junction analysis: Winchester 2016) was carried out to find the stages of inclosure in the area (since it is clearly earlier than some). (This discussion uses the old legal spelling 'inclosure' to discuss the process of works at North End, to avoid confusion with 'the enclosure', the subject of this report).

Comparison of Figs 5 and 6 show that when the 1799 Yatton map was drawn up, much of Kenn Moor was still uninclosed (this did not happen until 1815).

Obviously, the earliest feature on the figures is the stream now called the Little River. Not only does it form the edge of the existing moor, and have a naturally sinuous course, but all other boundaries respect it, probably including the Stowey Rhyne (although this is not entirely clear).

Stowey Rhyne (red in Fig 6) is, from its straightness, very clearly artificial, It marks the bottom edge of the inclosures in Yatton village at an early date against the open moor. It cuts deeply through the neck of the land on which the enclosure stands, and is very probably part of the drainage of Yatton Moor.

The next stage of taking in land from Kenn Moor is the green (stage 3 in Fig 6). This only makes such junctions with Stowey Rhyne itself, and all other boundaries respect it. This stage is later than our earthwork, since the hedges run over it. This stage was obviously designed to inclose the higher ground locally, which gives its name to the field 'The Batch' (1821) (OE *'baec'* = 'back, rump, hillock, slope', the topographical term derived from the human one).

Subsequently, the brown boundaries (stage 4 in Fig 6) use Stowey Rhyne, the Little River, and our stage 3 boundaries, meaning they are later.

A last stage before 1799 was the fitting of the purple (stage 5 in Fig 6) inclosures in the corner between stages 3 and 4. These have now fallen out of use again, although part of a ditch survives, and faint traces of the edge of the inclosures can be seen on the lidar in Fig 3.

All this means that our enclosure was created at a time when only the Stowey Rhyne and the Little River marked the area. It is not inconceivable that it might pre-date Stowey Rhyne. It is almost certainly therefore connected in some way with the management of Kenn Moor. Coming in the middle of this sequence of inclosure, which is most likely medieval, it is also probably of that date.

The relief of the earthwork is so slight that it was not discernable on the ground until early March, when the first flush of grass growth in the ditch showed up as darker foliage. This confirmed the results of the geophysics where it was possible, but still gave no clue as to any posible entrance or internal features. It can be seen in Fig 7 as a darker band of grass entering the picture on the near low right, swinging through the centre of the picture and under the tape, and then out at far top right.

Fig 7: The ditch of the enclosure showing as a lush mark, March 2017

Survey objectives

Since no documentary evidence regarding this earthwork seems to survive, and since no obvious internal earthworks were visible at the surface, geophysical surveys were carried out to attempt to detect any structures associated with domestic or industrial activity.

Methodology

The survey of the fields was undertaken during the period November 2016 to March 2017 by teams from YCCCART using a Bartington 610-2 gradiometer, and Geoscan RM-15 resistivity meter.

The completed survey was downloaded to a 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

Gradiometry

Fig 8: Gradiometry results

The gradiometry results are largely dominated by the gas pipeline, running almost east-west across the site. This has effectively removed any significant archaeological results from about half of the field. The presence of an old hay tedder prevented survey in the part-grids nearest the eastern gate of the field.

In the northern half of the field, however, the western ditch of the enclosure is visible (a cyan line running almost north-south), but there is no evidence of domestic or industrial activity within the area of the enclosure.

Fig 9: Monochrome gradiometry results

The monochrome results do not extend this picture in any way.

Resistivity

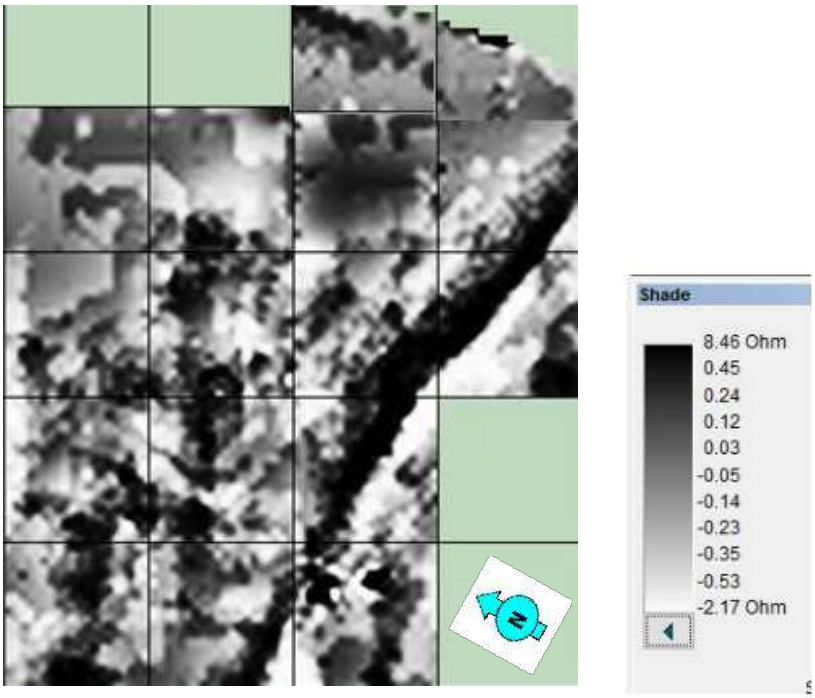


Fig 10: Resistivity results

Fig 11: Resistivity results mapped to Google Earth

The resistivity results are slightly clearer, in that they reveal the western ditch (arrowed),

but the southern end of the earthwork is confused by the presence of features around the gas pipeline, and compaction of the soil, since a tractor track across the field runs along the southern ditch. This is responsible for the broad band of higher resistance in the south of the surveyed area.

Immediately north of this high resistance, the ditch at the enclosure can be seen to turn a right angle (as in the lidar), but then broadens toward the east.

No internal features of any kind resembling archaeology can be seen, the variation being entirely explainable by geological variation.

Discussion

It is clear from the geophysical surveys that, remarkably clear as this site is on lidar images, it has no internal features representing buildings, structures, industrial or domestic activity.

While the structure is probably medieval (see above), it's use is not obvious. It is traditional to call such features 'agricultural', but at 4600m^2, it is a large area for a simple cattle or sheep enclosure (the measure equates to just over 1 statute acre enclosed), and these (for obvious reasons) traditonally have banks, of which there is no trace here. As medieval illustrations make clear, temporary sheep enclosures were usually constructed of hurdles (and were much smaller!).

Some use connected with the adjacent Kenn Moor before enclosure is implied. One potential use is as a traditional milking site. In Wedmore (Somerset) for example, there were tradtional milking sites for the herds that were pastured on the common moors before enclosure (*pers comm* Hazel Hudson), to which the cattle (in that case) would come to be milked.

In upland areas of common pasture, where the subject has been studied far more, the sheilings / summering sites / *hafods* where agricultural labourers lived during the summer would have been such sites, where sheep were milked and cheese made: the fact that this enclosure lies on 'dryland' right on the edge of the moors means that this is a possible lowland candidate for such, although (as at Wedmore) the labourers did not actually live on site.

The sites name ('The Batch') makes more sense when viewed from the low land in Kenn Moor than from the village of Yatton, perhaps emphasising the site as a part of the management of the moor.

The problem with such interpretations is the extreme lack of available medieval documents that illustrate such practices. Defoe's story about all the cattle in Cheddar being milked and their milk being made into one cheese each day may be an illustration of the last hints of such a process at work:

> *In the low country, on the other side Mendip Hills, lies Chedder, a village pleasantly situated under the very ridge of the mountains; before the village is a large green, or common, a piece of ground, in which the whole herd of the cows, belonging to the town, do feed; the ground is exceeding rich, and as the whole village are cowkeepers, they take care to keep up the goodness of the soil, by agreeing to lay on large quantities of dung for manuring, and inriching the land.*
>
> *The milk of all the town cows, is brought together every day into a common room, where the persons appointed, or trusted for the management, measure every man's quantity, and set it down in a book; when the quantities are adjusted, the milk is all put together, and every meal's milk makes one cheese, and no more; so that the cheese is bigger, or less, as the cows yield more, or less, milk. By this method, the goodness of the cheese is preserved, and, without all dispute, it is the*

best cheese that England affords, if not, that the whole world affords.

As the cheeses are, by this means, very large, for they often weigh a hundred weight, sometimes much more, so the poorer inhabitants, who have but few cows, are obliged to stay the longer for the return of their milk; for no man has any such return, 'till his share comes to a whole cheese, and then he has it; and if the quantity of his milk deliver'd in, comes to above a cheese, the overplus rests in account to his credit, 'till another cheese comes to his share; and thus every man has equal justice, and though he should have but one cow, he shall, in time, have one whole cheese. This cheese is often sold for six pence to eight pence per pound, when the Cheshire cheese is sold but for two pence to two pence halfpenny.

(Defoe 1761)

The appropriate test for whether this was such an animal enclosure would probably be phosphate analysis, where such a role would be implied by elevation of phosphate levels within the enclosure over background.

Recommendations for further work

No further work is intended at present, but the site should feature in a holistic investigation of the pre-enclosure archaeology and history of Kenn Moor and adjacent manors. The phosphate (or potentially, heavy metal) analysis suggested in the text could form part of this.

References

Defoe, D 1761	*A Tour thro' the Island of Great Britain*, London
Winchester, A J L 2016	*Dry Stone Walls: History and Heritage*, Amberley

Authors

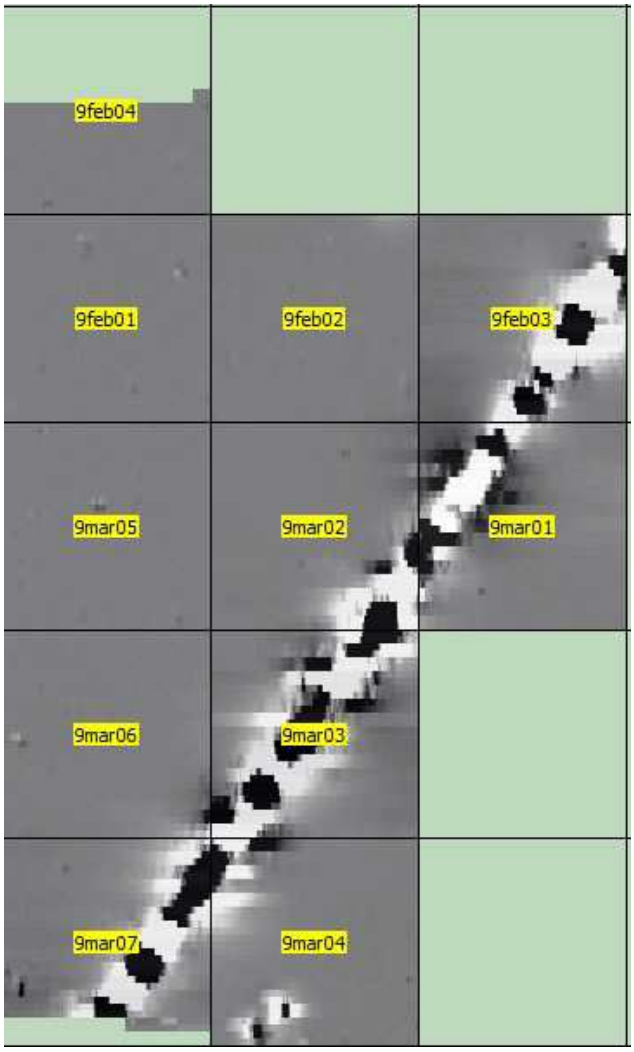
Vince Russett; Chris Short June 2017

Appendices

Gradiometry Day Sheet

YCCCART Site Survey Project – Moor Lane enclosure			
Survey date		9 March 2017	
Report date		9 March 2017	
Type /Instrument		Grad 601	
		Pace :1.4 m/s Lines/m : 1 Range:100nT Volume: High Sensors:2	Grid size: 30m x30m Pattern : Zig Zag Samples/m:2 (grid 1 only on 26/3/15 as reference) Samples/m:4 (other grids) Audio: On Threshold:30nT Reject:50 Hz
Location		Off Moor Lane	
Ref		none	
Site name		Moor Lane enclosure	
Landowner		Mr Graham Burdge	
Tenant			
HER ref			
Site type		Open land	
Description		Grass land	
Period			
Geology		Upper alluvium over Mercia mudstones	
Land use		Grazing	
Survey team and conditions			
9/02/2017	Team	Ferdie, Arthur Langley, Phillipa C, Janet Dixon, David W.	
	Weather	Cold grey	
9/03/2017	Team	Ferdie, Arthur Langley, Mike, Pete, David W.	
	Weather	Mild, sunny intervals, hazy cloud, wet underfoot	

Survey area		notes		readings		
		size	walk direction	max	min	mean
Date	Grid number					
9/02/2017	1	30 x 30	SE	+51.4	-36.3	+5.3
	2	30 x 30	SE	+13.6	-12.4	+5.0
	3	30 x 30	SE	+100	-100	-10.5
	4	30 x 30 partial 8 traverses	NW	+23.2	-0.7	+4.9
9/03/2017	1	30 x 30	SE	+100	-100	+3.5
	2	30 x 30	SE	+100	-100	-3.2
	3	30 x 30	SE	+100	-100	-11.4
	4	30 x 30	SE	+100	-100	-4.7
	5	30 x 30	SE	+92.5	-46.7	-0.2
	6	30 x 30	SE	+80.4	-73.9	-1.6
	7	30 x 30 M & R on last traverse	SE	+100	-100	-7.6



Terrasurveyor file names

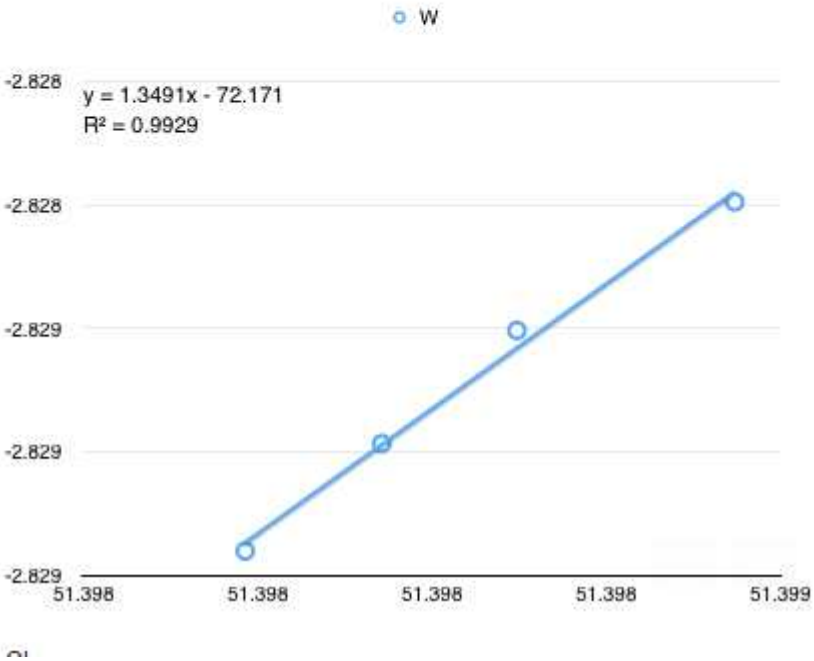
Moor Lane Enclosure - Grid diagram

	D	C	B	A
7	6	5	1	4
4	3	2	2	
Marsh	Marsh	1	2	

09/02/2017	Grids 1 -3 surveyed SE Grid 4 surveyed NW
09/03/2017	Grids 1 -7 surveyed SE

Starting from the furthest North:

N		W	
deg	minutes	deg	minutes
51	23.90765	2	49.69770
51	23.89641	2	49.71020
51	23.88943	2	49.72121
51	23.88238	2	49.73165



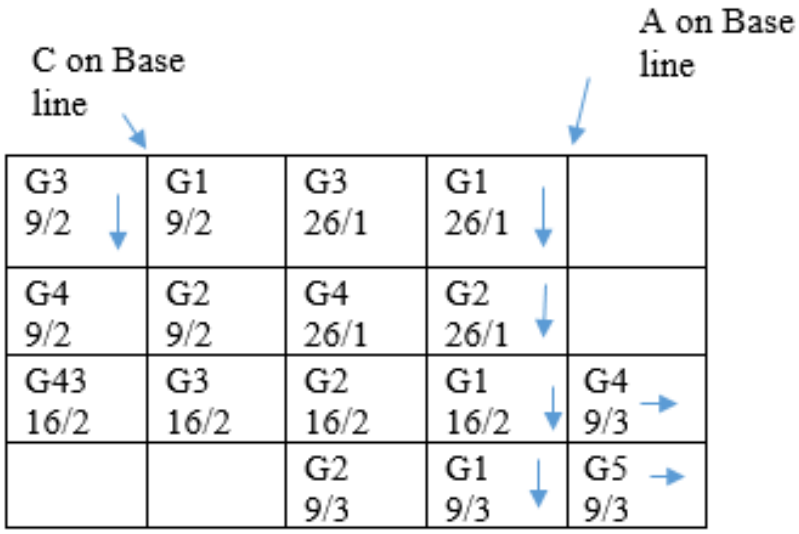
Setting out details

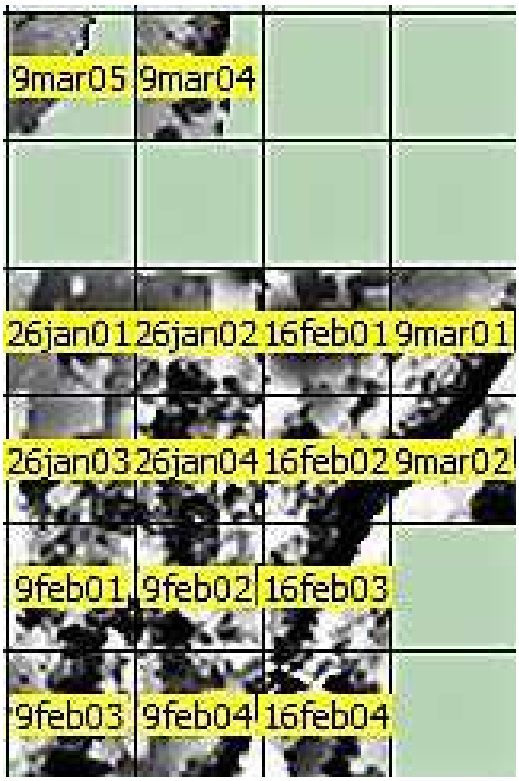
Resistivity day sheet

YCCCART Site Survey Project: - Moor Lane Enclosure		
Survey date		26 Jan to 9 March 2017
Report date		9 March 2017
Type /Instrument		RM15
Location		Off Moor Lane
Landowner		Mr Graham Burdge
Tenant		None
HER ref		TBC
Site type		Grass
Description		
Period		
Geology		Upper alluvium over Mercia Mudstone
Land use		Pasture
Survey team and conditions		
26 Jan 2017		Vince Russett, David Long, Peter English , Clive Nunn. *Weather: Overcast,very cold, grass damp*
9 Feb 2017		David Long, Pete English, Chris Short, Graham Bohannon. John Wilcox. *Weather: Overcast, cold, grass wet*
16 Feb 2017		David Long, Pete Wright, Chris Short, Graham Bohannon. John Wilcox, Liz Hale. *Weather: Overcast, cold, grass wet*
9 March 2017		David Long, Pete English, Graham Bohannon, John Wilcox, Liz Hale. *Weather: Dry, windy. Very wet underfoot*.

Survey area		Notes	
		Size	Walk direction
26 Jan 2017	Grids 1 to 4	20 x 20m	SE
9 Feb 2017	Grids 1 to 4	20 x 20m	SE
16 Feb 2017	Grids 1 to 4	20 x 20m	SE

9 March 2017	Grids 1 & 2 Grid 3 abortive Grids 4 & 5	20 x 20m Part grids	SE E





Terrasurveyor file names