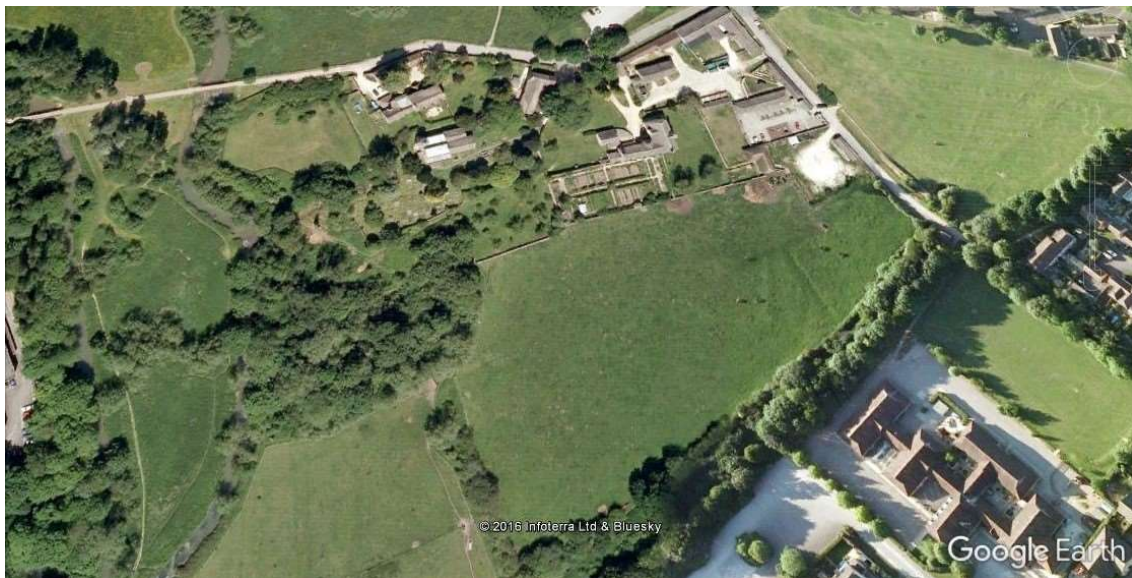


**Geophysical Survey at Cogges Manor Farm,
Witney, Oxfordshire,
May and June 2017.**

**William Wintle
August 2017**



Google Earth Image of Cogges Manor Farm, Witney, Oxfordshire.
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Introduction

The Oxford University Department for Continuing Education (OUDCE) has a long tradition of archaeological training and research at Cogges Manor Farm in Witney (Rowley and Steiner 1996). Work between 1986 and 1994 included excavation adjacent to the buildings and also building recording and analysis. More recently, in 2013 and 2014, students from the OUDCE's Post-Graduate Certificate in Archaeology and MSc in Applied Landscape Archaeology courses undertook field survey training and research in fields to the south of the manor house (Wintle 2016).

In May and June 2017 further geophysical surveys were undertaken at Cogges by students from the MSc in Applied Landscape Archaeology course. These surveys were directed by Dr David Griffiths with teaching assistance by Dr Olaf Bayer, Dr Tony Johnson and Dr William Wintle. As the surveyed fields lie within a Scheduled Ancient Monument, Historic England provided a Section 42 licence to perform geophysical survey (both magnetic gradiometry and earth resistance measurement).

This report describes the results obtained and is submitted in compliance with the Section 42 Licence issued under the 1979 Ancient Monument and Archaeological Areas Act (as amended), dated 24th January 2017 (Ref: AA/063144/5, Case No: SL00152279). The various reference numbers to the monuments are listed below in table 1 and the scheduled area is illustrated in figure 1.

National Heritage List for England	The Remains of a Medieval Moated Manor	1016269
Oxfordshire County SAM		183
Oxfordshire HER PRN	Cogges Fortified Manor House	1142
Historic England Monument Number	Earthworks remains of a Medieval Moat,	334438
Historic England NMR Number		SP 30 NE 12
Oxfordshire HER PRN	Cogges Manor Farmhouse and associated features	4601
Historic England Monument Number	Manor house built in the mid-13th century	334441
Historic England NMR Number		SP 30 NE 13

Table 1 – Reference Numbers for Cogges Manor House, Witney, Oxfordshire.

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

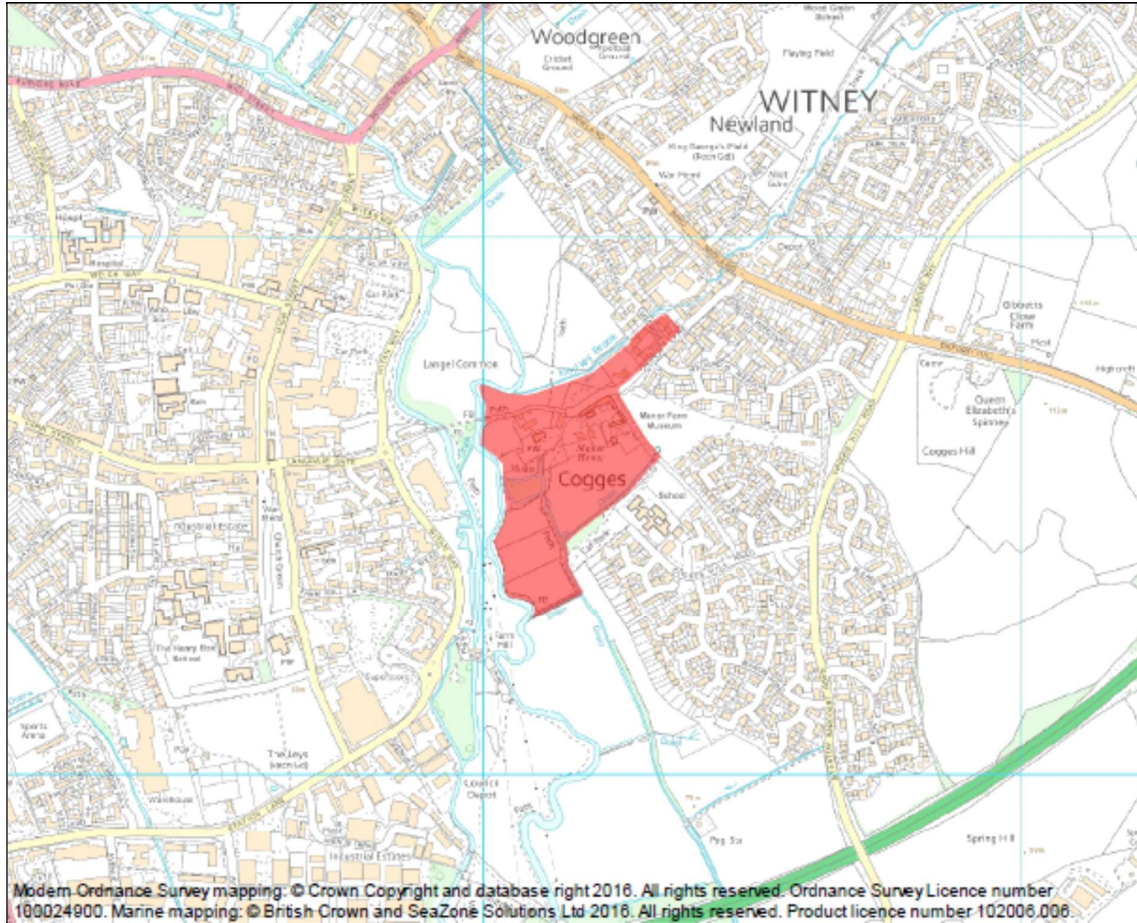


Figure 1 – The Scheduled Area at Cogges Manor Farm, Witney, Oxfordshire.

Cogges Manor Farm

Cogges Manor Farm and its associated buildings lie to the east of the river Windrush, which flows south towards the river Thames. The town of Witney lies to the west. The site contains earthwork features of the early medieval period such as a double moated enclosure which is the location of an earlier manor house. Surviving medieval buildings include the parish church, St Mary the Virgin, and the old Vicarage, which contains elements of a 12th-century Benedictine priory. To their east lie the buildings of Manor Farm with a manor house and farm buildings located around a yard (Rowley and Steiner 1996, 1). The buildings at and adjacent to Cogges Manor Farm are illustrated in figure 2.

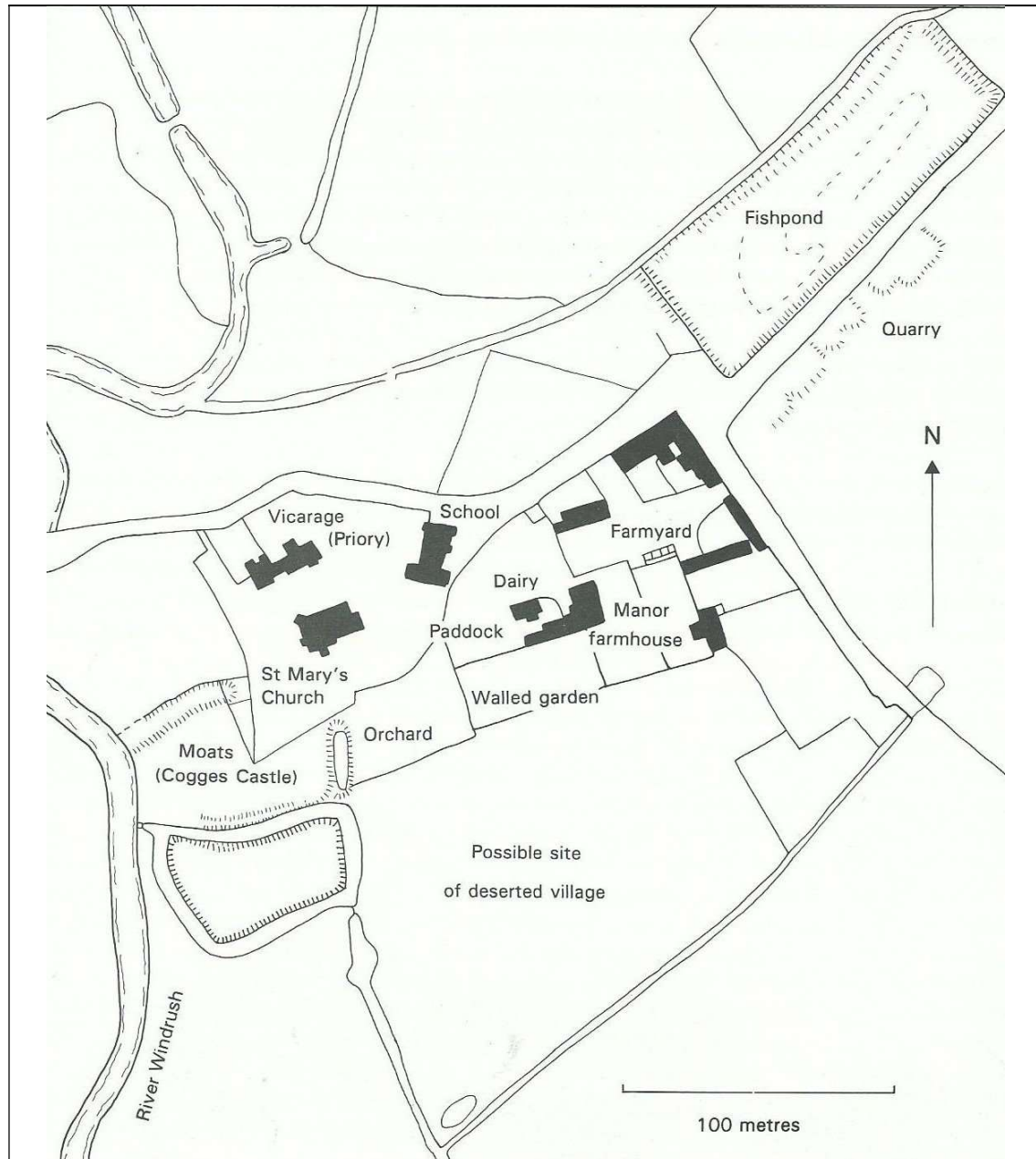


Figure 2 – Cogges Manor Farm and Surrounding Area
(From Rowley and Steiner 1996, 6, figure 2)

Figure 3 illustrates the local topography using Lidar data. Running north-south in the west is the river Windrush. To its east are three parallel north-south depressions and to their north are the moated enclosures. To the north and east of the moat is slightly higher ground where the church, vicarage, manor house and the farm buildings are located.

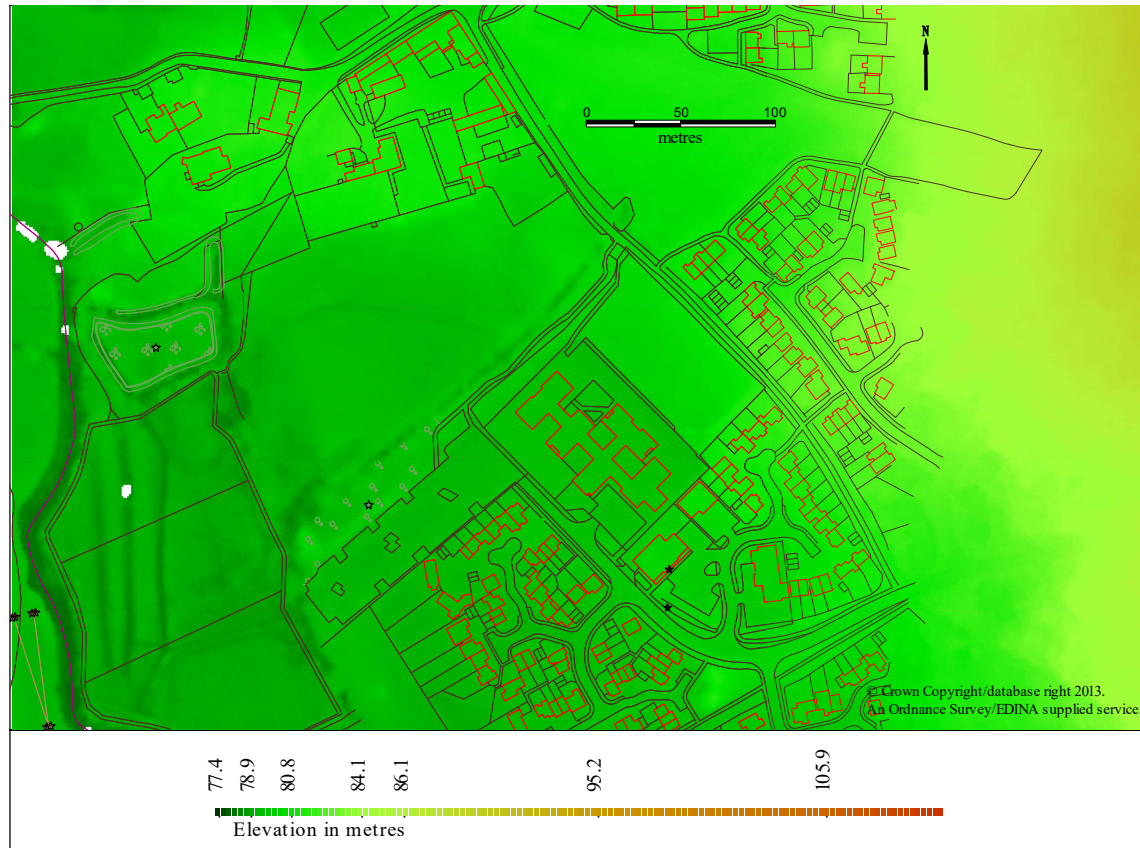


Figure 3 – Lidar Image of area near Cogges Manor Farm, Witney, Oxfordshire
(Lidar DTM 1m. © Environment Agency copyright and/or database right 2016. All rights reserved)

Cogges Manor Geophysical Survey 2017.

Since 2014 a number of changes have taken place to the field boundaries. In the west the fences subdividing the three fields have been removed, creating one large field. The southern field, which was originally one large field, has been subdivided into three smaller fields.

On Friday 26th May the magnetometry and resistivity grids were laid out by William Wintle, Louise Formby-Tiedman and Holly Bloomfield. In the western field an arbitrary base line was constructed approximately parallel to the north of the 2014 survey. In the southern field five grids were set out within the new field boundaries. The magnetometry grids were 30-metre squares. In the east of the southern field a set of 20-metre grids were laid out for resistivity survey. The locations of all the survey grids were subsequently recorded by Dr Olaf Bayer using a survey grade GPS.

The geophysical survey teaching sessions for both magnetometry and resistivity took place on Saturday 27th and Sunday 28th of May. Two further magnetometry grids were surveyed on Sunday 4th June by William Wintle, Penny English and Suman Chowdhury.

Magnetometer Survey

Figure 4 illustrates the extent of the magnetometer surveys in 2014 and 2017. The primary aim of the 2017 survey was to complete the large field to the south of the manor house and the two smaller fields to the south of the moated enclosures and east of the river Windrush.



Figure 4 – Magnetometer Surveys at Cogges Manor Farm, Witney, Oxfordshire
Top – 2014. Bottom – 2014 and 2017.

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

Starting firstly in the west, figures 5 and 6 show the 2017 survey in what had originally been two small fields. Also shown in figure 5 is the 2014 survey further south. The survey grids were 30-metre squares and were surveyed with a GRAD601-2 dual magnetometer. Four readings were taken every metre with a traverse separation of one metre.

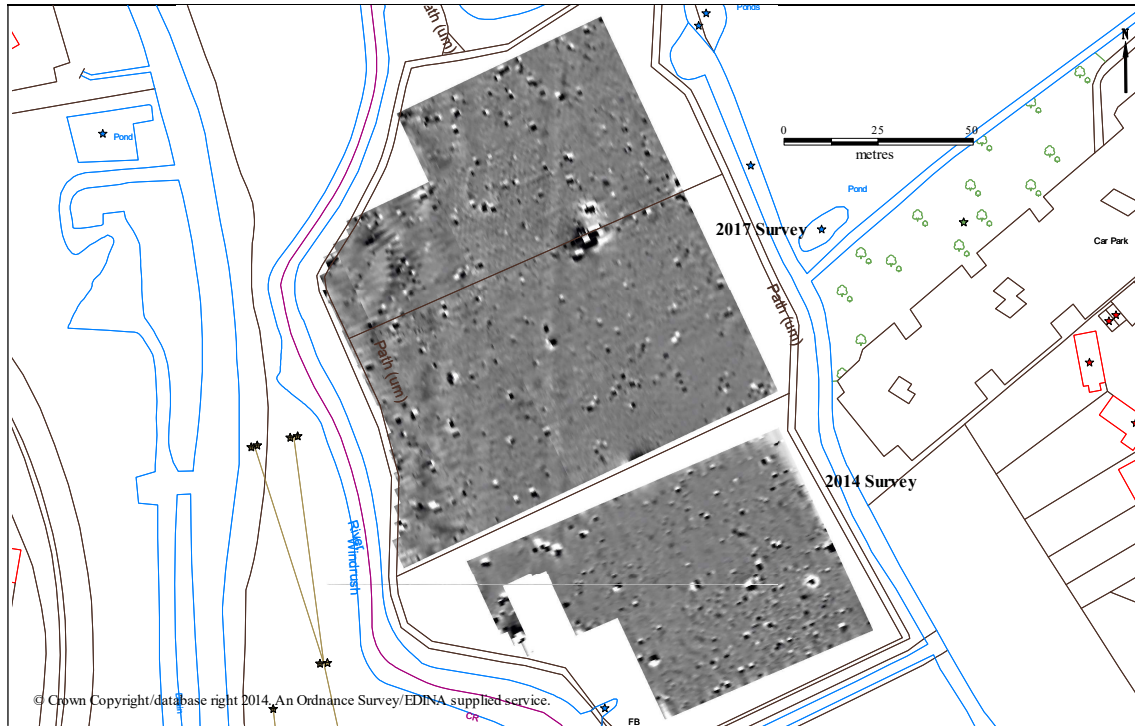


Figure 5 – 2017 Magnetometer Survey at Cogges Manor Farm, Witney, Oxfordshire

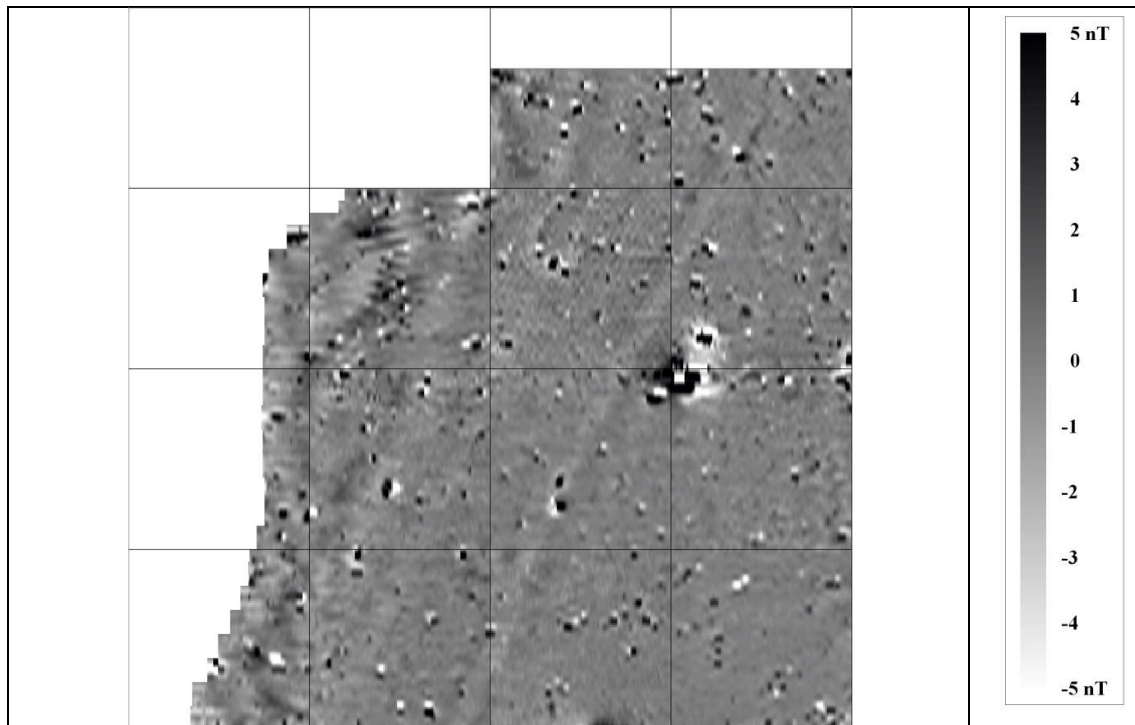


Figure 6 – 2017 Magnetometer Survey in western field

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

Clearly visible are three north-south features – the eastern two showing mostly as a negative anomaly and the western mainly as a positive anomaly. Apart from this and some possible features in the west near the river bank, the survey area is largely featureless. There is one intense magnetic anomaly near the centre which is most likely caused by a large piece of ferrous metal, and also a scatter of small ferrous objects.

Turning next to the southern field, most of which was surveyed in 2014. Only the southern part of this field was not surveyed then as the grass was too long. Five grids were laid out along the southern boundary, four contiguous grids were placed in the middle part of the new subdivision and one grid was located in the eastern subdivision, adjacent to the resistivity survey. The 2014 and 2017 surveys are shown in figure 7 and the five 2017 grids in figure 8. A ditch feature detected in 2014 and showing as a positive anomaly is present in one grid. There is strong magnetic interference along the southern boundary and in the eastern grid.

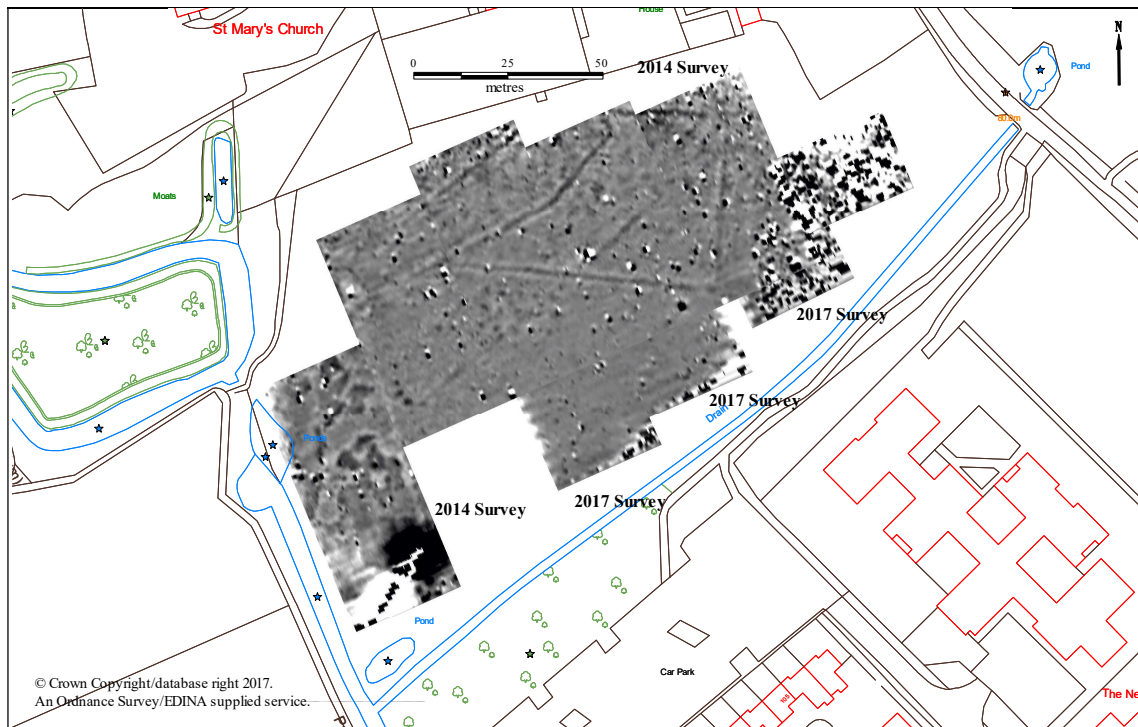


Figure 7 – 2017 Magnetometer Survey at Cogges Manor Farm, Witney, Oxfordshire

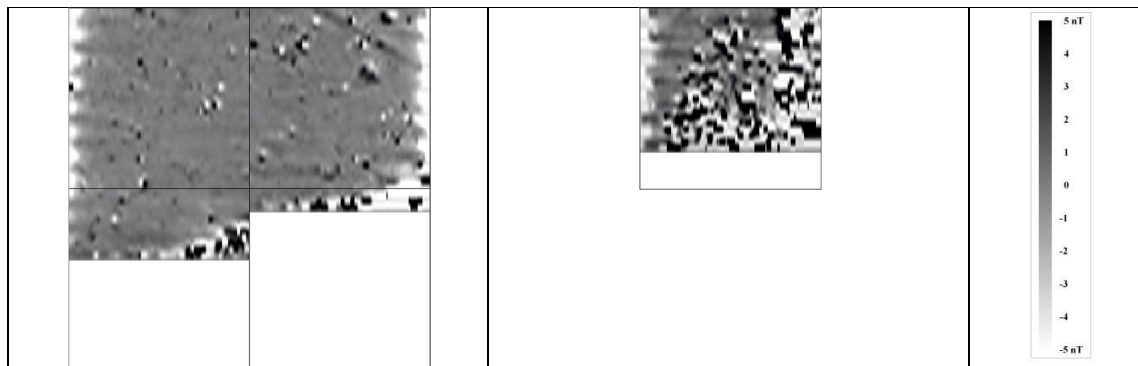


Figure 8 – 2017 Magnetometer Survey in sub divided southern field

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

Figure 9 compares topographical features observed with Google Earth with features detected by the magnetometer surveys in the field to the south of the manor house and in the fields to the south-west.



Figure 9 – Google Earth Image of Cogges Manor Farm, Witney, Oxfordshire.
(© Google Earth © 2017 Infoterra Ltd and Bluesky. Image Date 2012.)

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

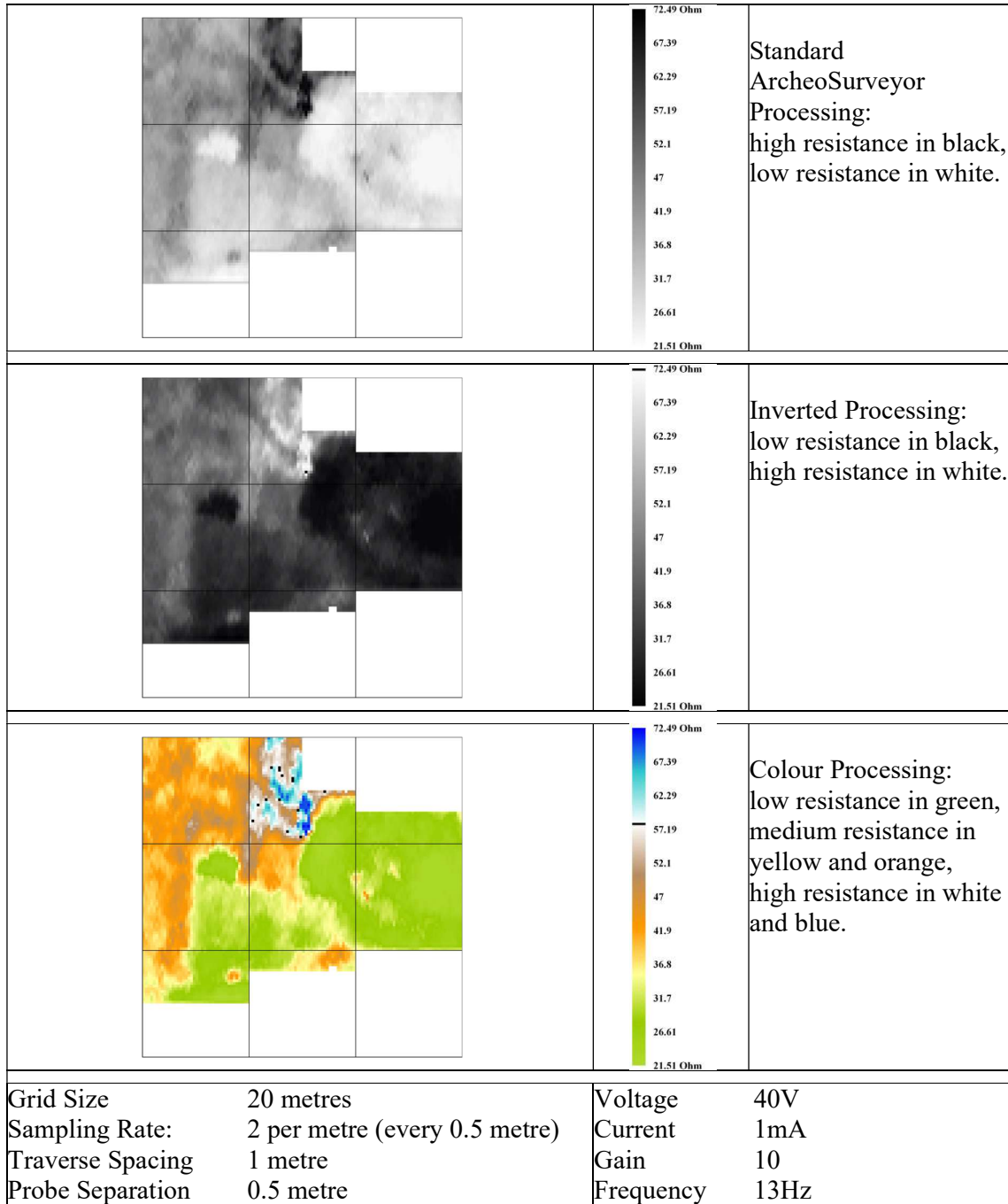


Figure 11 – 2017 Resistivity Survey

Figure 11 shows the eight grids surveyed in three representations, two in grey-scale and one in a colour band. By default, ArcheoSurveyor shows areas of high resistance in black and low resistance in white. As areas of low resistance often correspond to ditches and areas of high resistance may indicate masonry or foundations, an inverted processing is usually more compatible with magnetometry images and black and white aerial photography. Either type of representation can be used as long as the appropriate scale bar is also present. A colour representation can often help to distinguish gradations between high and low resistance.

In the west is a band of medium resistance, bounded to its east by a linear band of slightly higher resistance. Further east is a large area of low resistance with an approximately circular feature of low resistance to its north. Further north are areas of medium and high resistance. The eastern third of the survey area is mainly low resistance.

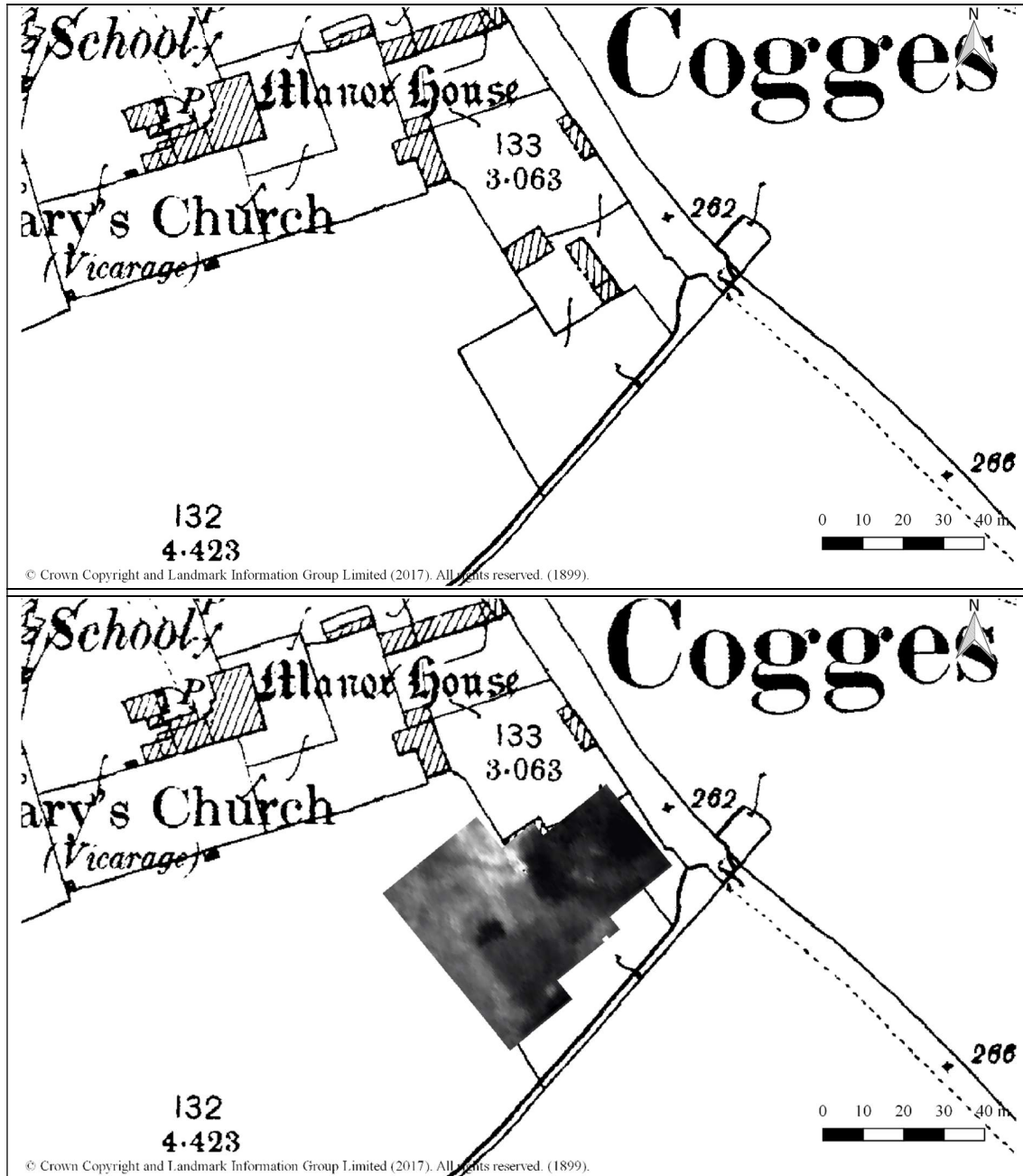


Figure 12 – Cogges, Witney, Oxfordshire 1899 (White represents high resistance, Black low resistance) 1:2500 County Series 1st Revision [TIFF geospatial data]. Using: EDINA Historic Digimap Service, <<http://digimap.edina.ac.uk>>

Figure 12 compares the resistivity survey to the 1899 Ordnance Survey mapping of walls and buildings. Whereas the magnetic survey encountered strong interference the resistive survey has produced some features which correspond to the map. In particular a line of medium resistance appears to correspond with to a field boundary or wall which runs north-

Geophysical Survey at Cogges Manor Farm, Witney, 2017.

west from the southern boundary and then turns north-east. This same feature is present in the field as a slight depression as can be seen in figure 13 which compares topographical features observed with Google Earth with features detected by the resistivity survey. The results suggest that a resistive survey is an appropriate geophysical technique with which to investigate this area.

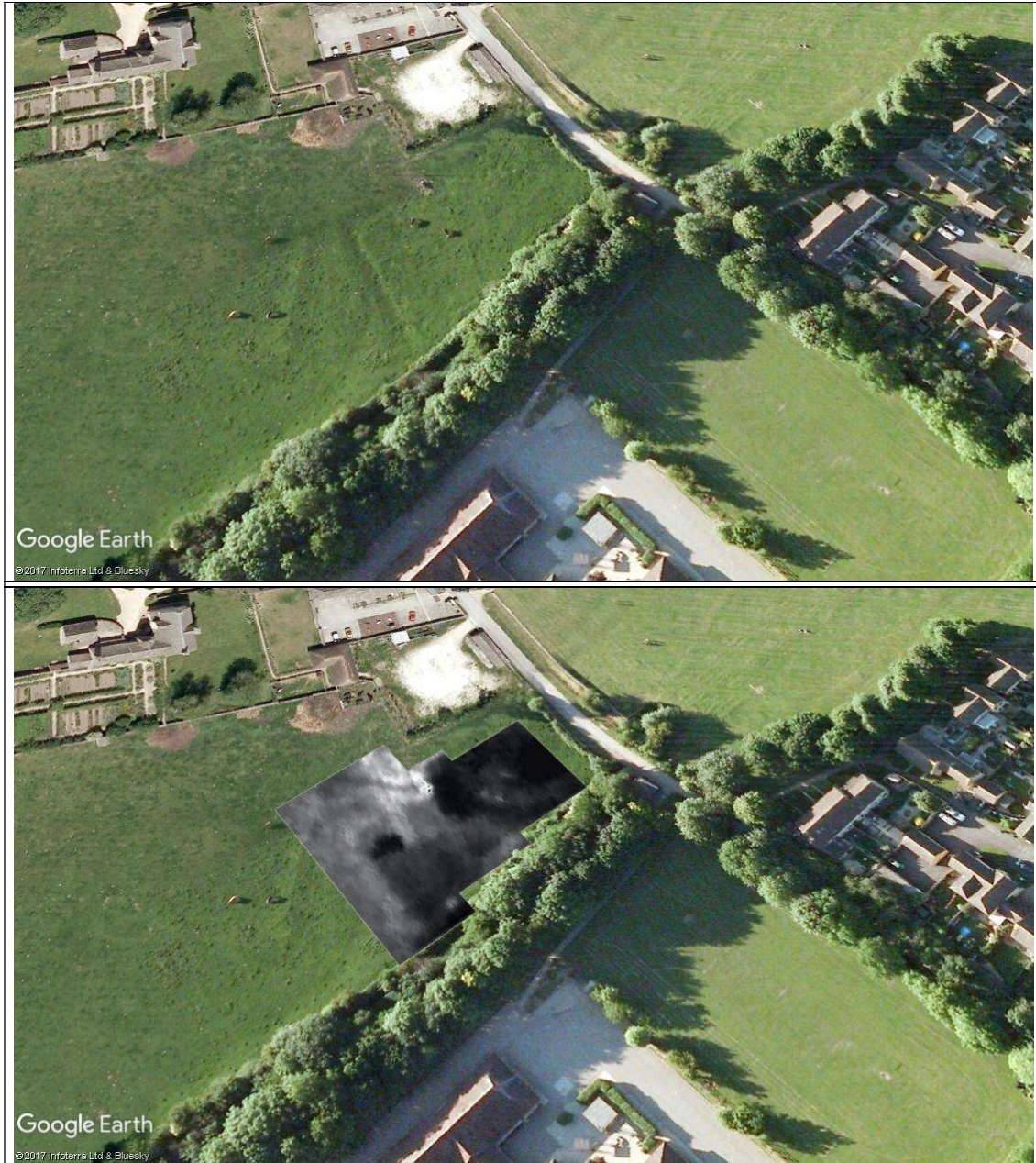


Figure 13 – Google Earth Image of Cogges Manor Farm, Witney, Oxfordshire.
(© Google Earth © 2017 Infoterra Ltd and Bluesky. Image Date 2009.)

Discussion

The 2014 and 2017 geophysical surveys have provided useful information on possible surviving archaeological features in the fields to the south and south-west of the manor house.

In the field to the south of the manor house the magnetic surveys have detected a number of linear features which may represent post-medieval drains, paths or boundaries. Two in the north of the field appear to lead towards a gate in the southern wall and a boundary in the wall. There is a suggestion of quarrying in the west and there is a strong metallic signal in the extreme south-west. The eastern end of the field has considerable magnetic disturbance and has been investigated by a resistivity survey. This has detected linear and circular features which appear to relate to nineteenth-century activity. Despite the undulations in the south-west of the field there is no positive evidence for a deserted medieval settlement. Perhaps the low elevation and proximity to the river make this an unlikely settlement site.

The survey of the fields to the south-west was completed in 2017. These are located on the alluvium of the river Windrush floodplain. The only features detected correspond to three north-south linear depressions. It has been suggested these depressions correspond to medieval or later fishponds, seventeenth or eighteenth century water meadow systems, or flax retting ponds, or combinations of the above. The geophysical survey has not provided any further information about their date or function. Other archaeological features may be present but remain undetected, either because there is insufficient magnetic contrast between soil and subsoil or because of the depth of alluvium close to the river.

Acknowledgements

I am very grateful to Mr Colin Shone and the staff and volunteers of the Cogges Heritage Trust for their assistance and interest in the survey work at Cogges.

Appendix 1 – Magnetometer Processing

ArcheoSurveyor Processing

Clip -5nT to 5nT
Zero Mean Traverse at 2 SD (Destripe)
Interpolate Match X&Y
Clip -5nT to 5nT

Appendix 2 – Resistivity Processing

ArcheoSurveyor Processing

Despike: (Threshold 1, Window Size 3x3)
Clip from 22.85 to 70.00
Interpolate Match X&Y

Appendix 3 – Students

Holly Broomfield
Genevieve Cain
Suman Chowdhury
John Clibbens
Peter Cornah
Simon Coxall
Alexandra Curson
Penelope English
Louise Formby-Tiedman
Rachel Godfrey
Edrys Lupprian
Dale Munn
Janet Oldham
Nicholas Swift
Bastiaan van Dalen

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