



## Little Gidding Report

On 27 July 2008 Archaeology RheeSearch carried out resistivity and Wenner array surveys around Little Gidding church and a magnetometry survey in the adjacent field.

**Members participating:** Brian Bridgland, Pat Davies, Liz Livingstone, Bruce Milner, Ian Sanderson, Maureen Storey, Tony Storey and Jim Wilson.

**Site coordinators:** Trevor Cooper.

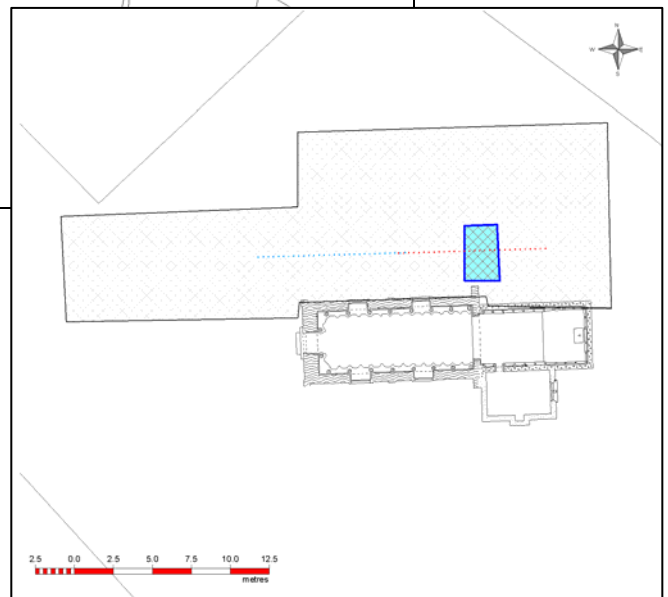
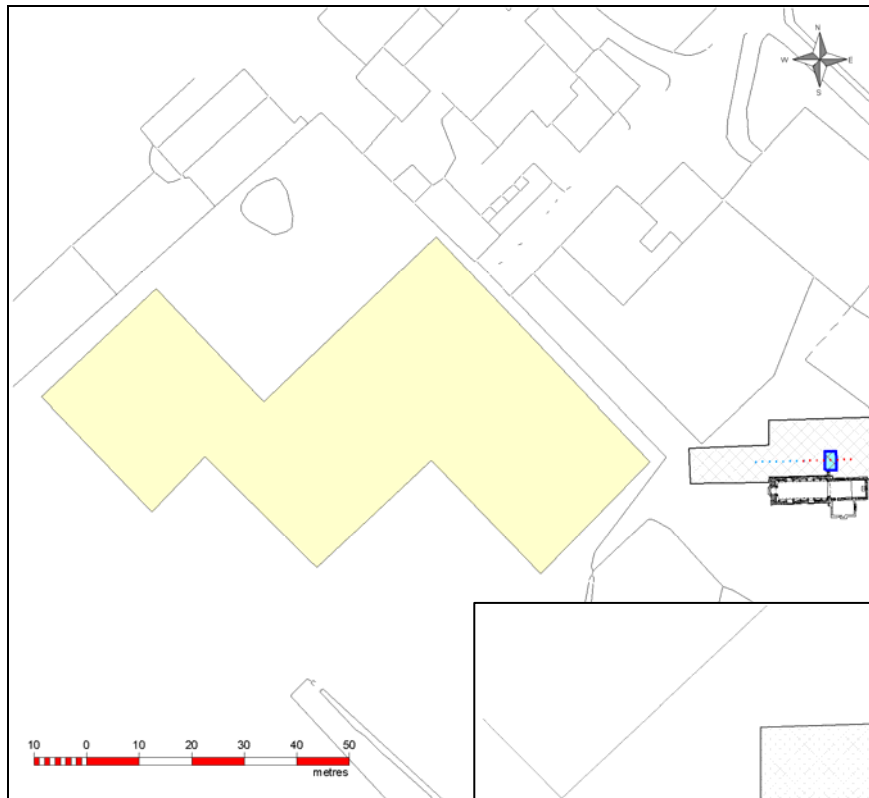
**Site conditions:** Chalk downland, close cropped or low cut grass.

**Weather:** Very hot and sunny with rain during preceding week.

**Equipment:** Bartington 601 gradiometer; TRCIA 50cm twin probe; TRCIA Wenner (alpha)

<b>Area covered:</b>	Magnetometry	four 30 m × 30 m grids
	Resistivity	one 12 m × 20 m grid, one 7 m × 15 m grid
	Wenner	two 20 probes @ 0.5 m spacing

**Location:** TL 127 816



**Location plans:** Site location plan above with church detail right. Magnetometry survey area in solid yellow, 1 m resistance surveys crosshatched, 25 cm resistance survey area in blue. The Wenner array surveys are shown as red and blue dotted lines.

*All the images in this report are orientated with grid north towards the top of the page except where stated.*



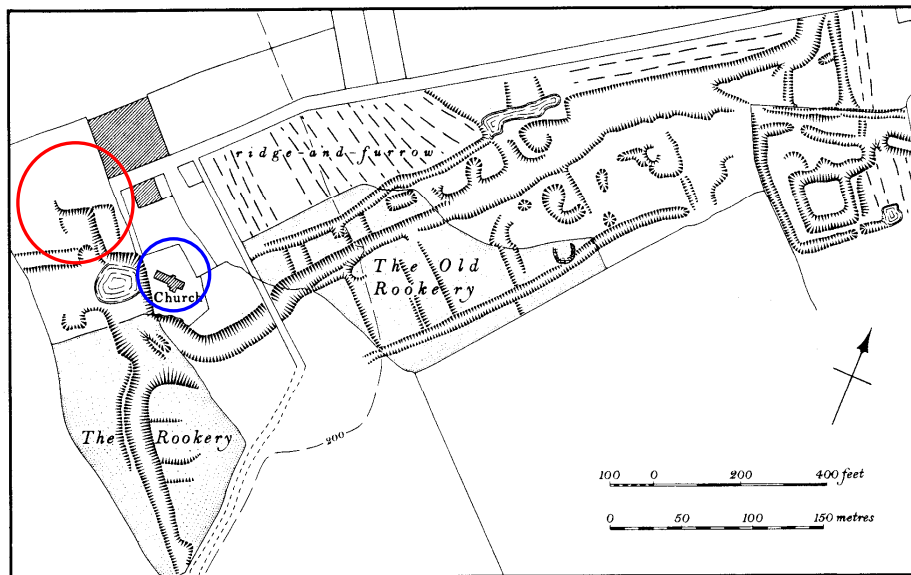
**Purpose of survey:** To detect evidence supporting the church having once been larger than at present, and evidence supporting the presence of a manor house in the adjacent field.

**Introduction:**

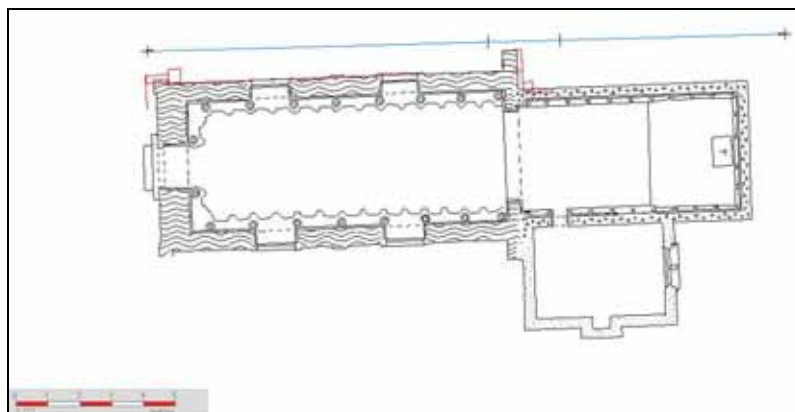
This site is located at the S extremity of a documented deserted medieval village (DMV) with a unique ecclesiastical and social context which continues today. It is worth noting that the ambience of the site and the consideration shown by the staff working there made our visit a pleasure despite the particularly warm conditions.

Little Gidding was the focus of a religious community founded by Nicholas Ferrar along Laudian principles in the 1620s, a tradition that continues today with the present spiritual retreat.

The site was divided into two parts for this study, the area immediately to the N of the church, and the adjacent field. An earthworks plan of 1979 shows the context to the DMV, and an early map fragment shows the manor house in relation to the church. A detailed plan of the church shows some minor external discrepancies with current measurement which may be related to later repairs. However, this plan does not show the present downpipes and drains on the SE side of the N buttress and the SE side of the N middle buttress.



Earthwork survey PCAS 1977. Surveying foci are circled with red for magnetometry and blue for resistivity.



Detailed plan of the church.  
(Unknown source - personal communication)



Estate plan of 1626 centred on the church indicating a manor house to the NW.  
*(Unknown source - personal communication)*

**Location on the ground:**

*Church area: The plan given in this report did not exactly match the measurements taken on site. The blue outline on the Wenner location diagram shows the discrepancies.*

*Lengths in m. E corner of church and corner of nave & chancel to point 10/12\*, 20 first grid 1.9 and 8.44 respectively. E outer corner of drain enclosure and W outer corner of W buttress to point 10/12, 0 first grid 1.7 and 0.75 respectively. This point 4.9 from NE corner of front tomb. (\*first grid of 12x20 has location points as for a 10x20 grid.)*

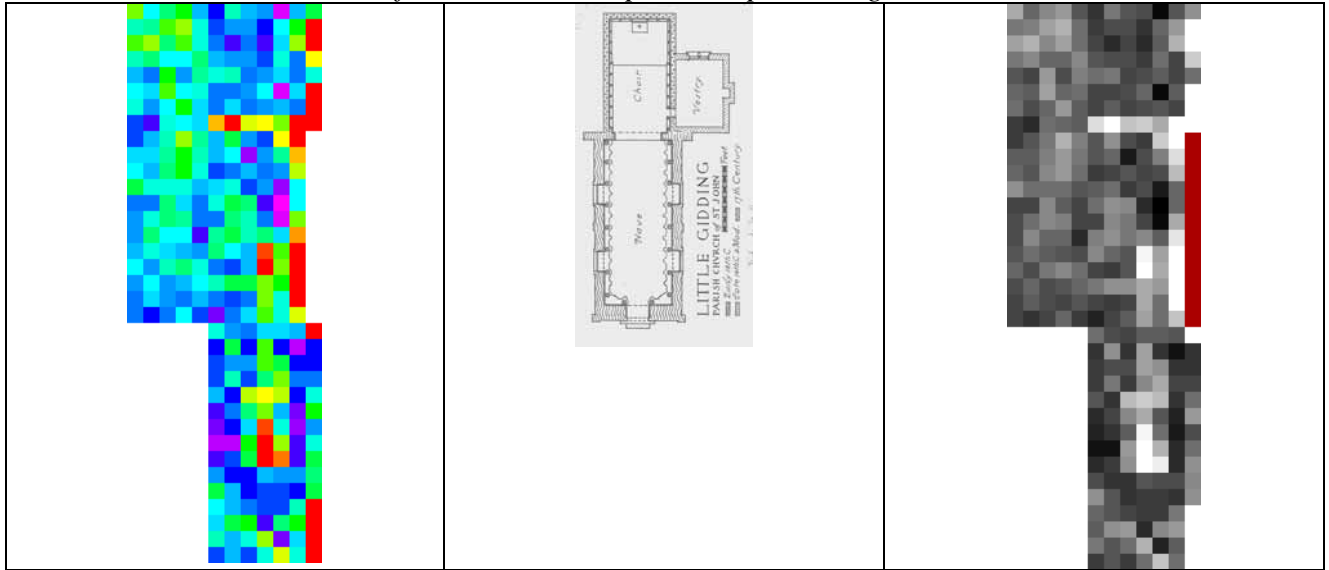
*Manor field: Building corner next to gate and metal gatepost 8.75 from first point 9.00 and 17.75 respectively to N corner of grids. E corner of grids (nearest church) 22.12 and 23.67 from NW and SW corners of church respectively. Offset of W grid to others 15.*

**Reference:** PCAS 1977; Brown AE and Taylor CC, Cambridgeshire Earthworks Surveys II in Proceedings of the Cambridgeshire Antiquarians Society LXVII 88-89 1977.

**Church area results:**

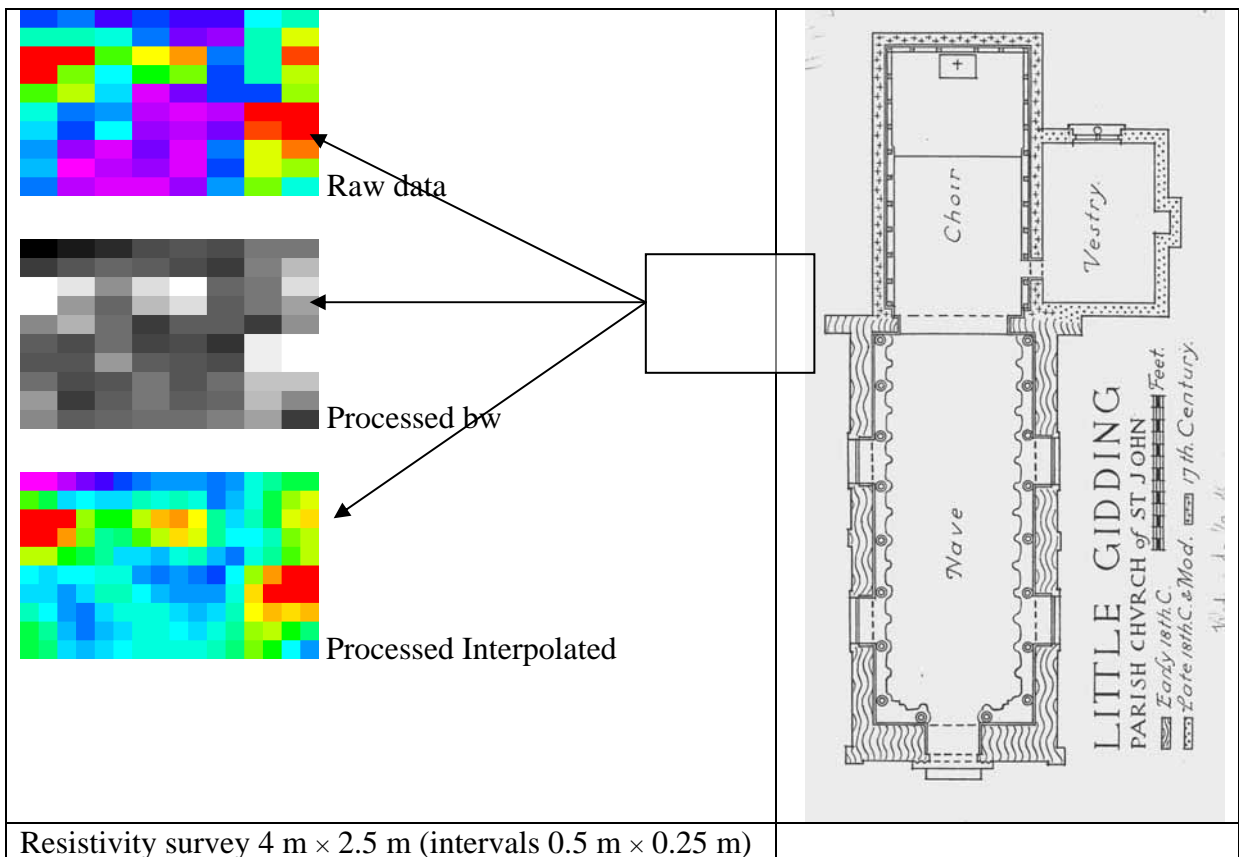
Images in this section are orientated for ease of presentation.

Orientations should be taken from the location plan except where given.

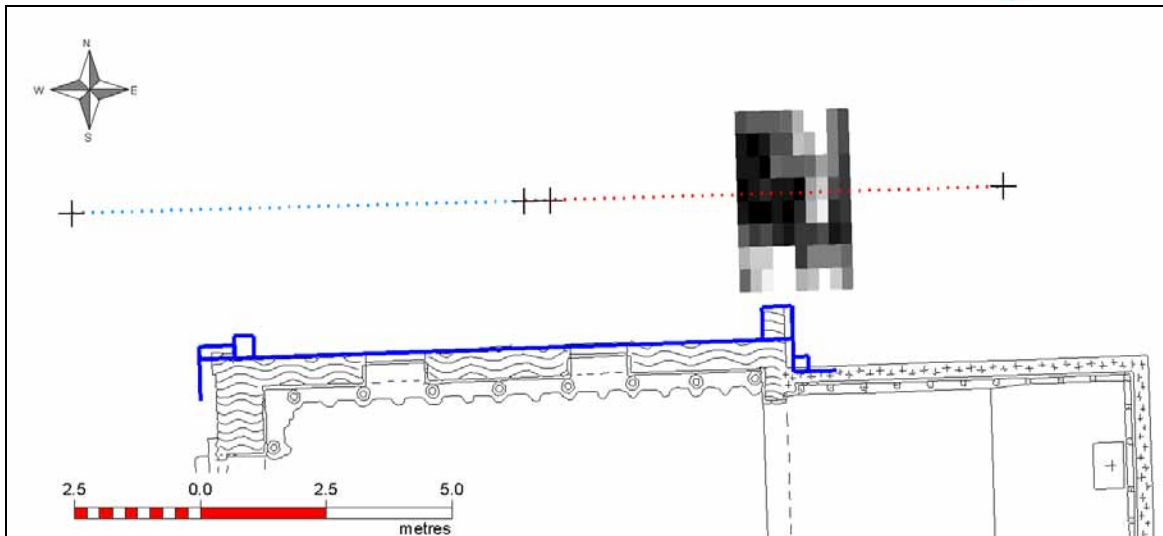


Resistivity survey, 12 m × 35 m.  
(Red is high resistance, blue is low, white is no data.)

Resistivity survey, 12 m × 35 m.  
(white is high resistance, black is low, red is no data.)



Resistivity survey 4 m × 2.5 m (intervals 0.5 m × 0.25 m)

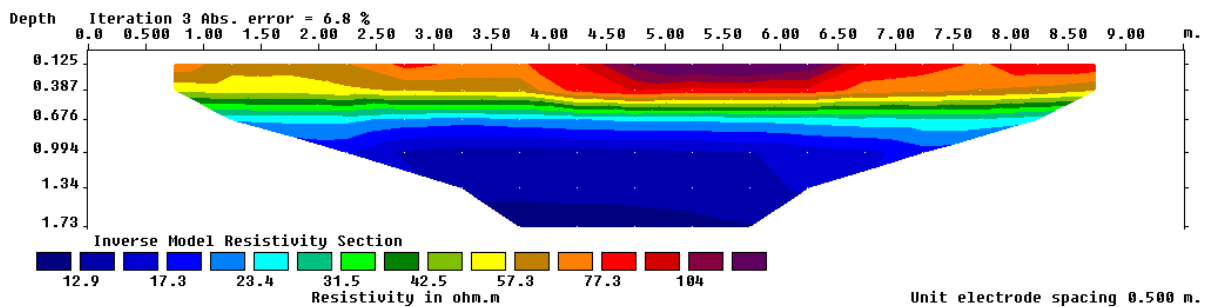


Vertical section (Wenner) locations (red & blue dotted with central overlap) and detailed resistivity results in relation to the present church outline (blue solid line) and an estimate of the location of an earlier church plan. The present downpipe enclosures are shown to the E of the both buttresses.

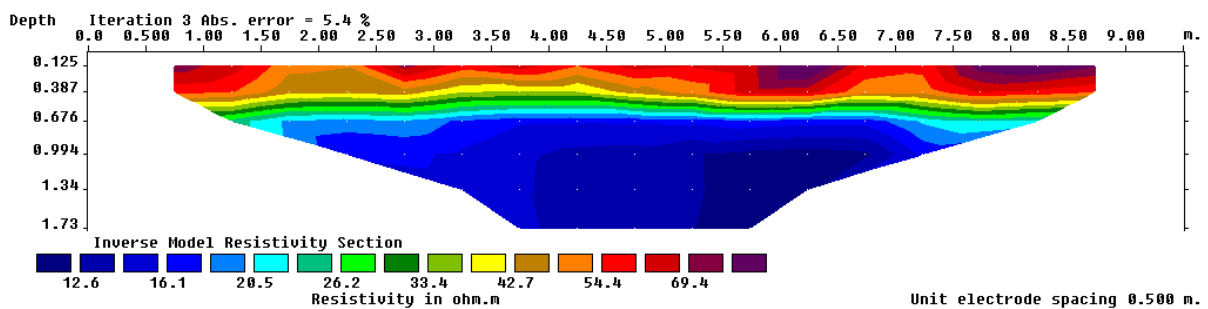
### Wenner array models

This technique utilises a series of ground resistance measurements along a line with equal but progressively increasing separation between the measurements. Theoretically the greater the separation between measurement points, the greater the depth of the determination. The actual results are compared with a theoretical homogenous substrate and an image generated on the basis of any deviations. The results are therefore models derived from the recorded data, and as such may be influenced by mathematical parameters which affect any comparisons with an ideal state.

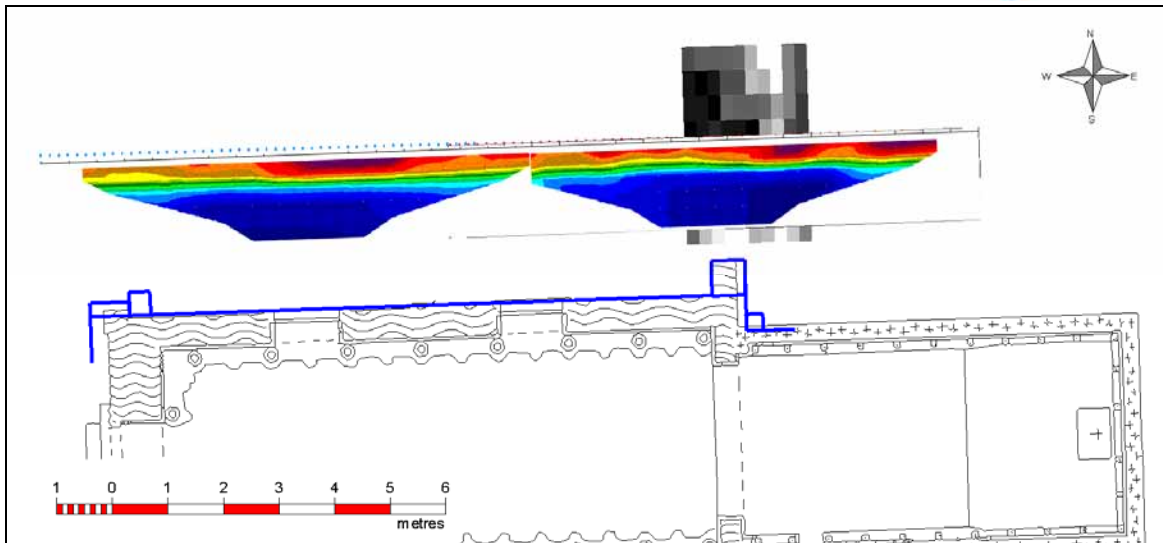
### Wenner section results.



Wenner section (west)



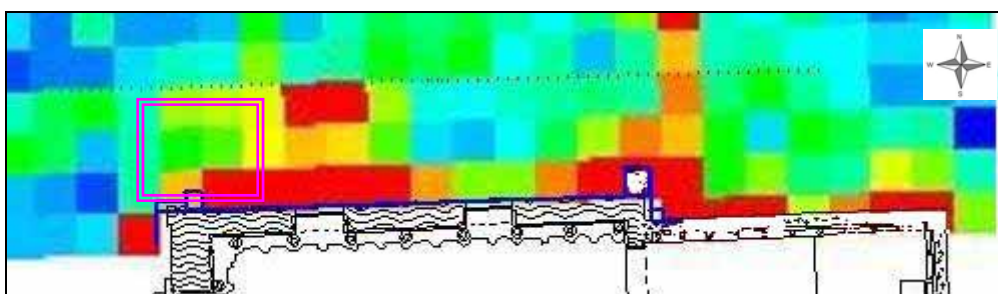
Wenner section (east)



Superimposition of Wenner sections on ground plan.

### Resistivity

The 1 m resistivity results show a clear high resistance line running N from the vicinity of the E buttress to the middle of the survey area. Another linear higher resistance feature runs adjacent to the church wall with lower values at the NW corner, centrally between the buttresses and centrally in relation to the E extension. A further area of high resistance was detected 2 m from the NW corner of the church with a possible pattern of medium level readings. Two high resistance areas were detected in the W of the survey area, one immediately adjacent to the approach path and one in the centre of the area. The latter is possibly connected by a line of medium resistance to the NW corner of the church. The 0.25 m resistivity results show a 0.5 m × 1 m area of high resistance immediately adjacent to the buttress and an interrupted line of high and medium resistance extending NS across the survey area 0.25-0.5 m to the E of the buttress.



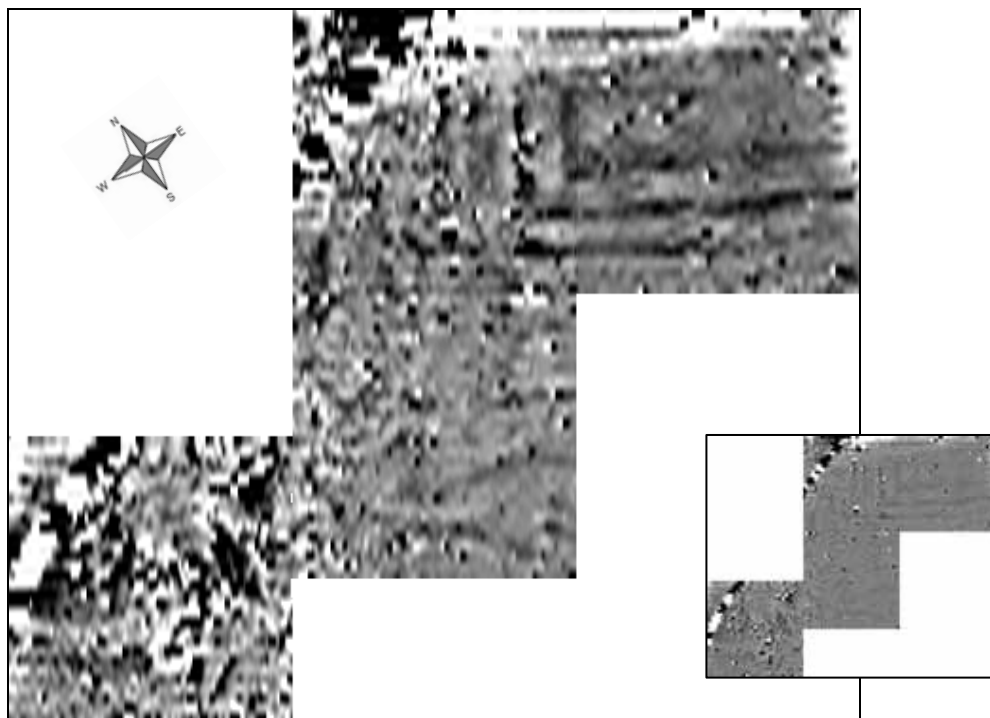
### Discussion:

The resistivity survey area was positioned as close as possible to the wall of the nave of the church. The results processing assumes that a reading encompasses a full 1 m square. Next to the chancel and the NW buttress readings were taken as close as feasible to the structure but not in the centre of the 1 m square.



As expected, close to the church wall the resistance values were high due to foundations, moisture uptake by stonework and weather sheltering. It is surprising that slightly lower values were detected towards the middle of both the chancel and nave walls. This suggests that the level of discrimination was sufficient to detect the additional foundation bracing needed for the buttresses and the NE corner of the chancel. That being so, the most likely explanation for the two high resistance readings 3 m NE of the NW corner of the church is buttressing for the tower which is reported to have once stood there. The lower resistance readings to the N of the NW corner might suggest that less substantial foundations were needed inside a tower structure. The lack of a clear pattern suggests that most foundation material has at some stage been removed. There is a temptation to suggest a tower position as shown by the double line rectangle above, or even 2 m to the E, but the evidence is inconclusive. Unfortunately the vertical section was taken too far from the church to clarify the matter. The very detailed resistivity survey carried out next to the central buttress shows that the foundations from the buttress extend by about 1 m and that there is a drainage channel running next to this on the E which goes straight to a sump about 5 m N of the church. This is easily seen on the 1 m survey and on the vertical section. This raises the question as to where the water goes from the NW corner drain. The area of high resistance 3 m from that corner may be an additional sump. With regard to finding evidence for an extension on the N side, there is no suggestion of a higher resistance line running parallel to the church wall. Given the ambiguity in the detected evidence for tower foundations, it is not possible to say that the extension never existed, it can only be stated that clear traces of its existence were not detected.

#### **Manor field results:**



Magnetometry survey, 90 m × 75 m with inset showing strong (100nT) signals.

Magnetometry results show that the site was generally magnetically noisy over the NW side, this background tends to obscure fainter features. Metal fencing along the NE and SE edges

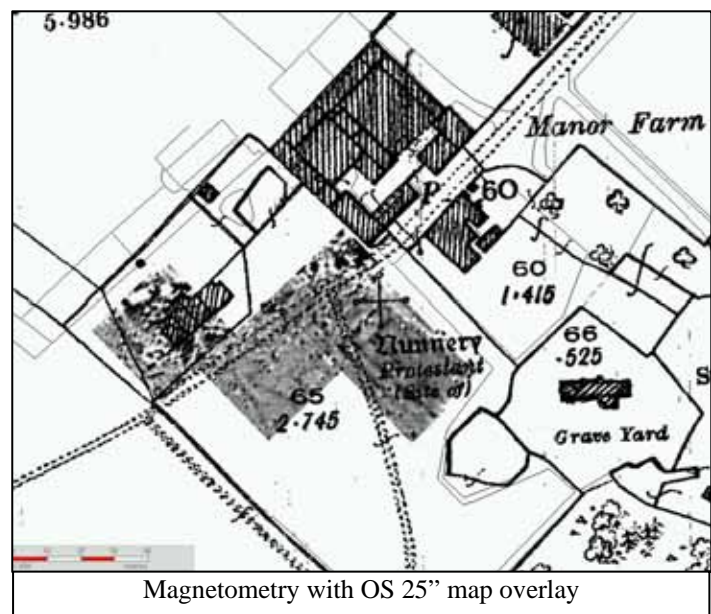


of the survey area blank out the area around. The dark area shown on the NE edge of the survey area reflects the access gate to the field. There is a broad mixed signal running in an arc from the NW side of the W grid to the gate area (see inset). The remainder of the W grid has no apparent structure to the detected signals. The noise demarcation line coincides with the line of a track running NE–SW from the gate area. There is a clear rectilinear pattern on the eastern side of the survey area. There are also faint signals that indicate this pattern extends to the NW but these are subsumed by the confusion of responses around the gate area. It is worth noting that the E grid included a bank parallel to and starting a few metres from the SW edge, with a right angle turn to the SW a few metres from the NW edge of that grid.

### Discussion:

The strong signal running from the gate area to cross the W grid is probably a pipe with ferrous couplings. The dark area next to the white caused by the metal in the fence and gate is probably building debris, which may also account for the confused signals to the NW side of the cross field track which runs SW from the gate. The area in the W grid surrounded by stronger signals corresponds with the position of a building on the 1901 OS map suggesting that in its demolition the walls fell outwards. Other structures including various boundaries are shown on the other OS maps of the 25" County series, the remains of which leave this side of the field as uninterpretable.

On the eastern side of the survey area there are some interesting rectilinear forms which, given the 1626 plan, are probably due to paths and/or terracing walls in a formal garden. The central line lies approximately along the base of a distinct bank, (no earthwork measurements were taken during this exercise). Excavation at the western edge of the rectilinear feature might reveal traces of steps down to the lower level between the outer two lines.



Magnetometry with OS 25" map overlay

### Conclusion:

Church extension.

The only evidence detected which supports the concept of a widening of the church on the N side is a small area of high resistance extending N from the central buttress and an area of high resistance 3 m N of the W corner of the church. The latter could alternatively be associated with a tower on that corner or later drainage works. The evidence does not discount the possibility that the extension existed and any foundations were removed, particularly as a clear outline of the tower foundations was not detected.

Manor field.

A clear set of rectilinear structures was detected which may be related to formal gardens. The areas where a manorial building may have extended into the field were too heavily contaminated with relatively recent building works to discern any likely patterns.