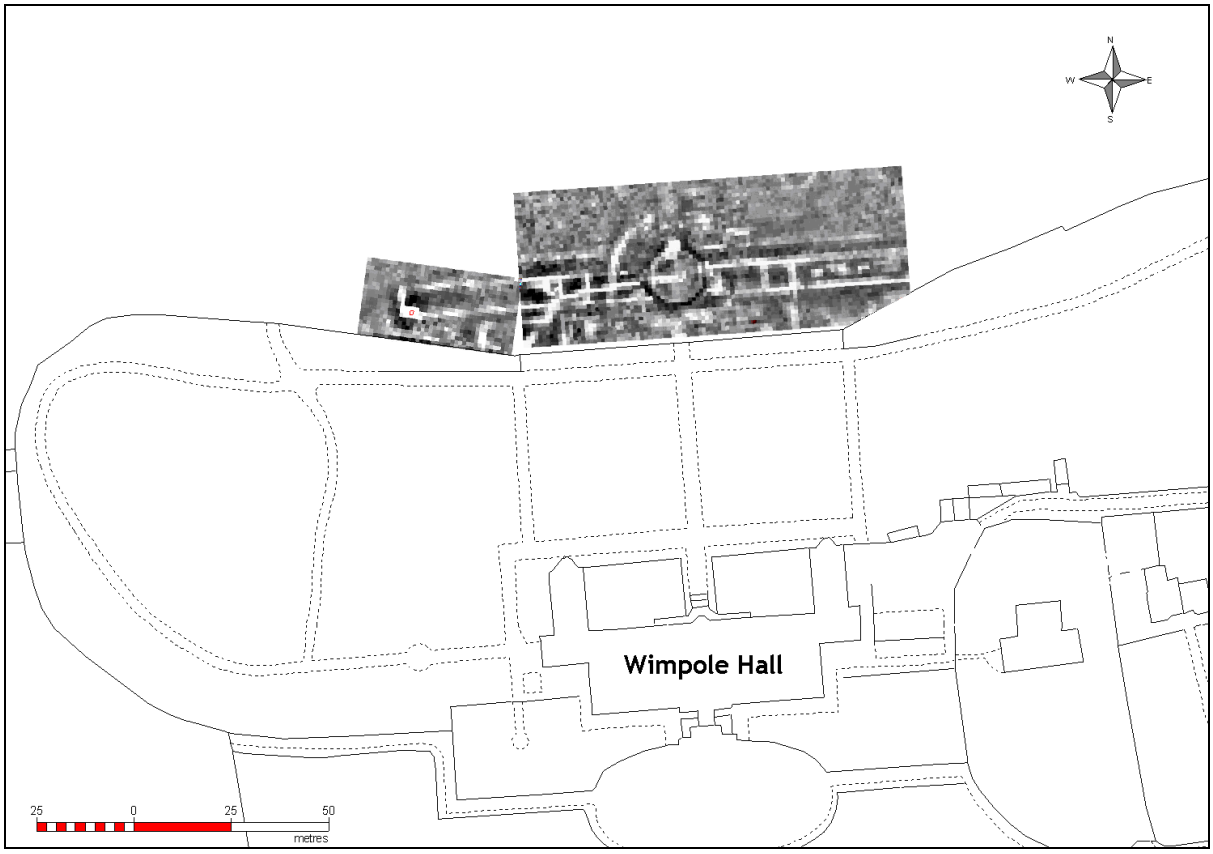
Wimpole Hall North Gate Site Report

On 9 Sep 2007, 16 Jun 2008 and 20 Jul 2008 Archaeology RheeSearch carried out resistivity surveys in the field between the Hall and the Folly on the Wimpole Estate in Cambridgeshire. On 8 June 2008, 20 July 2008 and 31 May 2009 Wenner array studies were carried out.
Members participating: Brian Bridgland, Pat Davies, Liz Livingstone, Bruce Milner, Ian Sanderson, Maureen Storey, Tony Storey.
Estate coordinator: Simon Damant.
Excavation coordinator: Mike Coles for the Cambridge Archaeological Field Group
Site conditions: Predominantly low grass. Level site.
Equipment: TRCIA 50cm twin probe; TRCIA Wenner (alpha)

Area covered:	Resistivity (day 1)	six 20 m × 20 m grids
	Resistivity (day 2)	four 20 m × 20 m grids
	Resistivity (day 3)	two 20 m × 20 m grids
	Wenner (day 1)	two 15 m @ 0.5 m spacing
	(day 2)	two 15 m @ 0.5 m spacing
	(day 3)	four 15 m @ 0.5 m spacing, one 30 m @ 1 m spacing

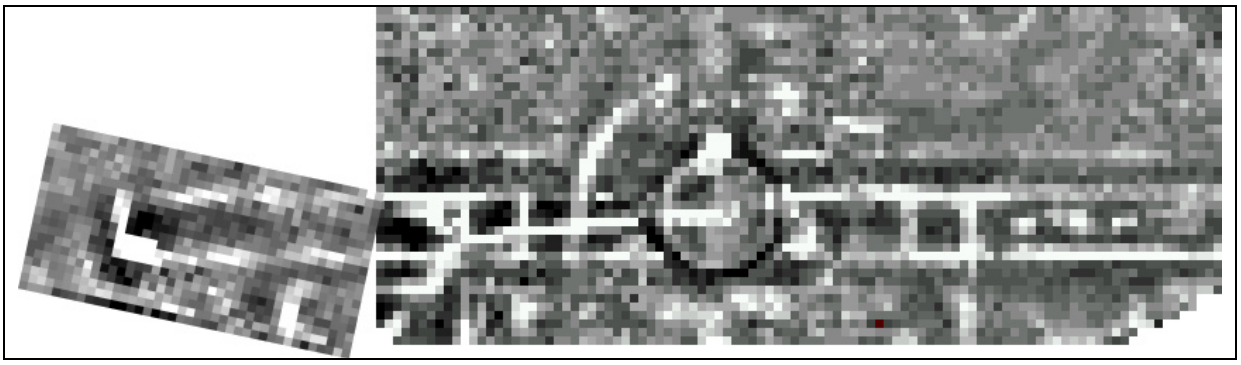
Location: TL 336511, 100 m N of Wimpole Hall, Cambridgeshire.



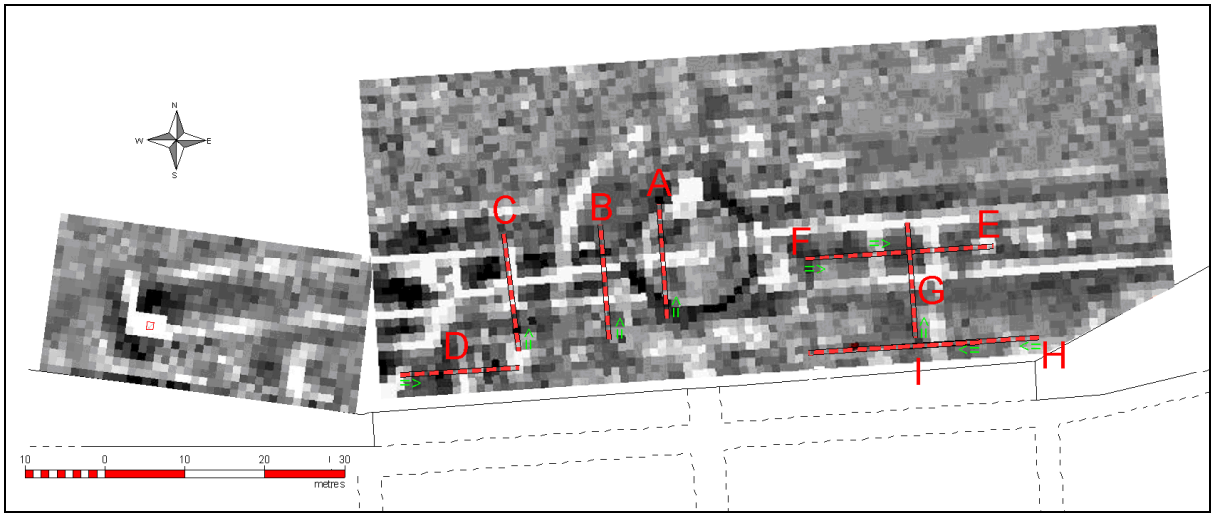
Location plan: North of Wimpole Hall.

Purpose of survey: To provide additional information about sub surface structures to support ongoing excavations around a lost fountain.

Results:



Resistivity surveys, 100 m × 40 m plus 40 m × 20 m skewed.
(White is high resistance, black is low; orientated for presentation.)

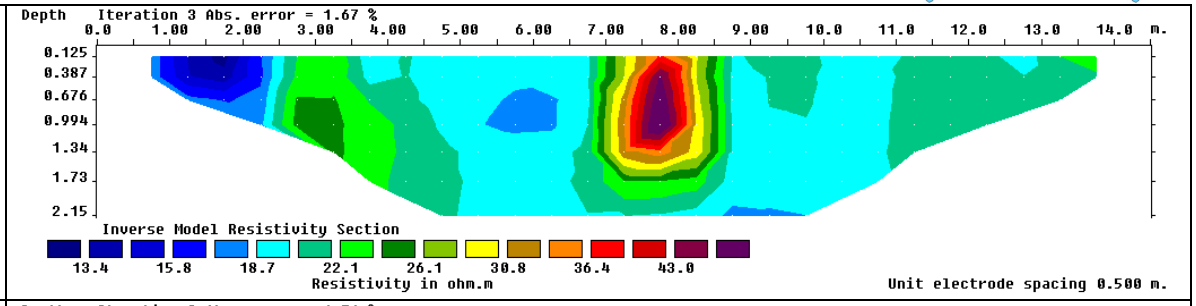
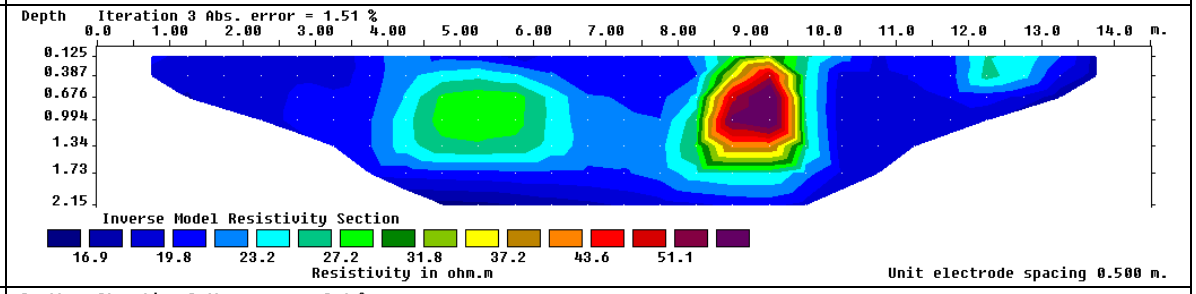
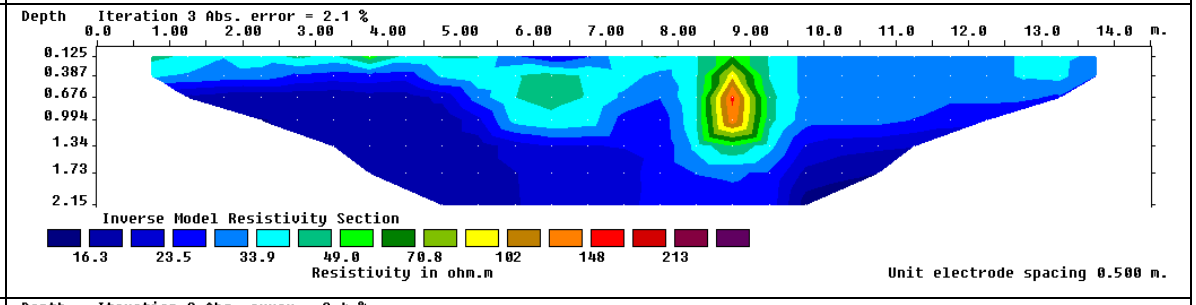
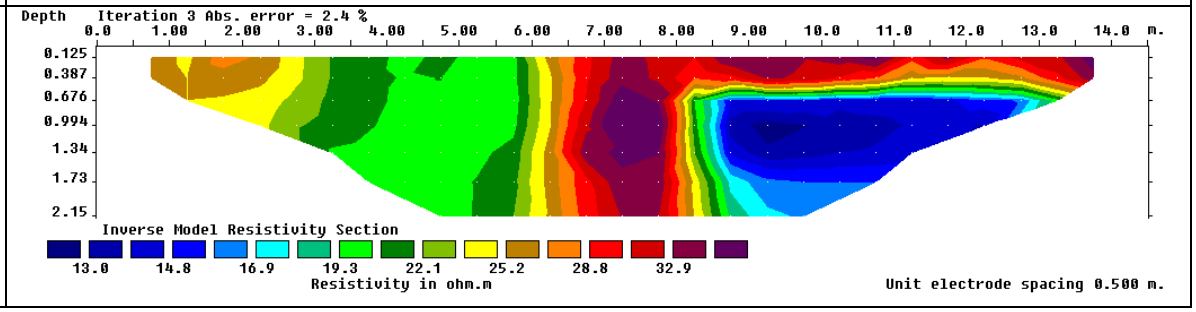


Location of Wenner array determinations superimposed on the resistivity results. The small square outlined in red towards the W end indicates the position of a drain cover. Green arrows indicate zero positions and survey direction.

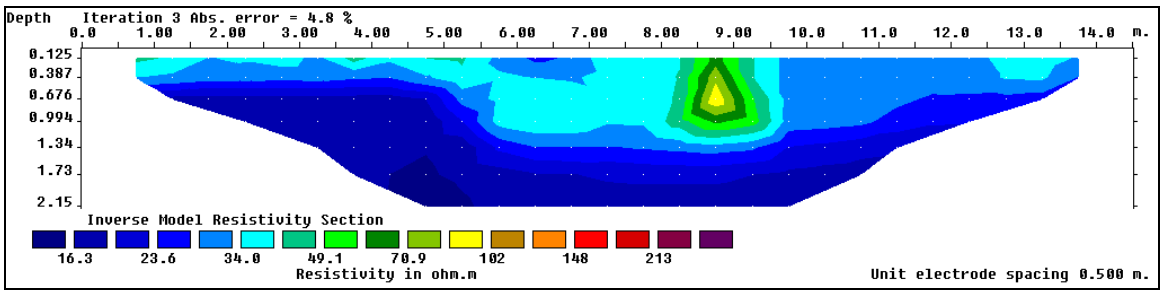
Raw data are available as a separate appendix.

Wenner array models.
This technique utilises a series of ground resistance readings along one line of probes with equal separation between those probes being used to obtain a reading. The separation is increased each time the line of probes is completed. The greater the separation between measurement points, the greater the depth of the determination. The images generated are models derived from the recorded data, and can be influenced by a variety of mathematical constraints.

The images below for all sections except C have been processed with model parameters RRYYN (default). Section C gave a clearer image with parameters RRYNN (apparent). The image for section C under the same parameters as the others is included for completeness. An explanation of the adjustment parameters is beyond the scope of this report but may be found within the Res2DInv program and notes available from www.geoelectrical.com.

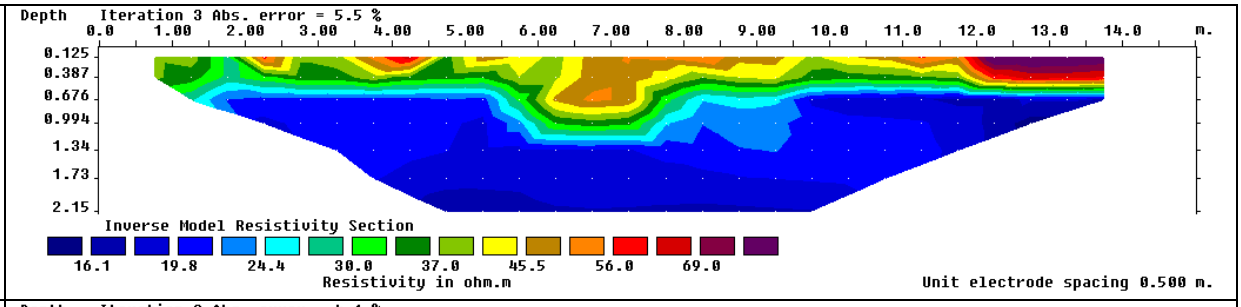
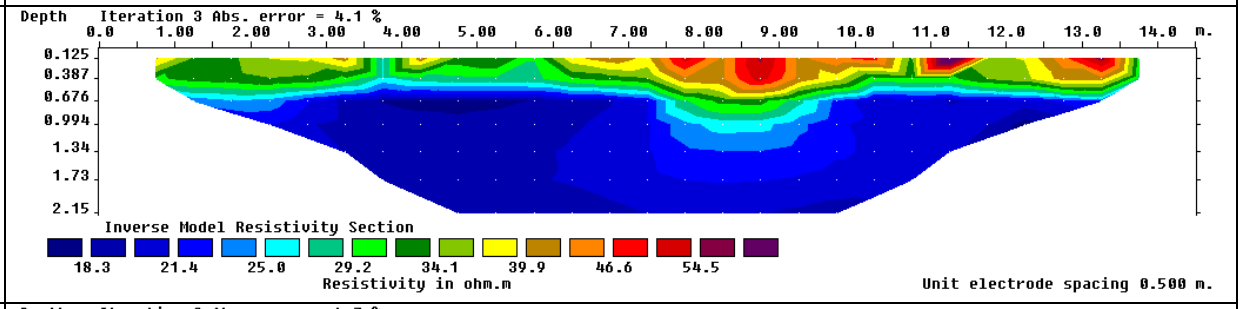
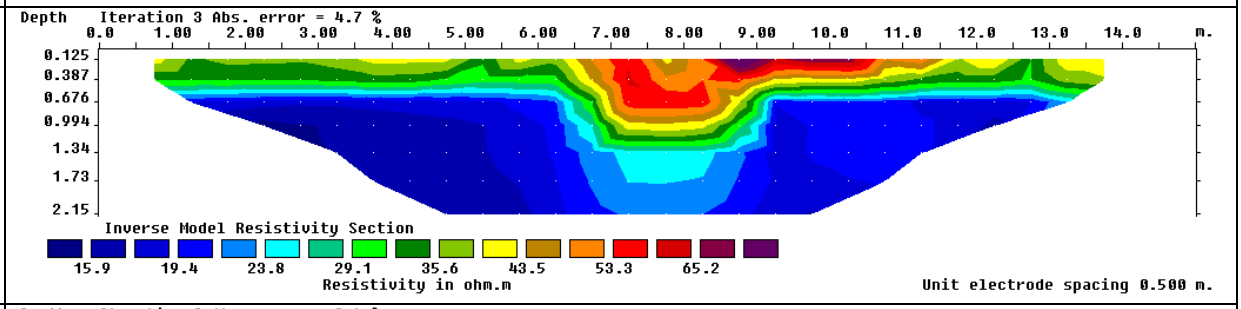
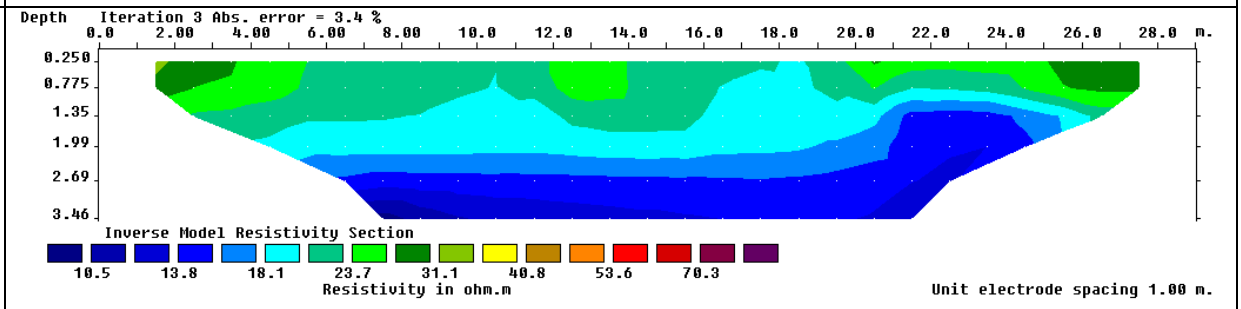
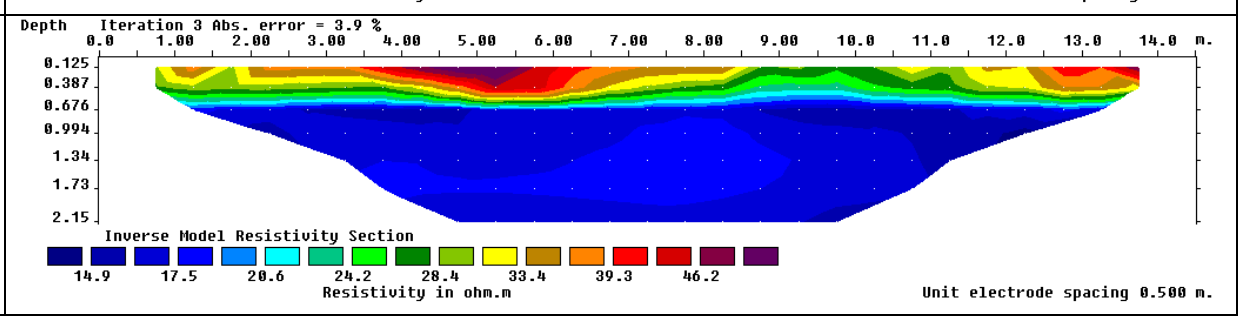
A zero south ref 1	
B zero south ref 03	
C zero south ref C2	
D zero west ref C1	

Wenner array models.



Section C using the same model parameters as A, B and D above.

No data have been provided at the time of writing this report as to the structures detected by the Wenner array studies to the east of the site (Sections E, F, G, H and I).

E zero west	
F zero west	
G zero south	
H zero east	
I zero east	

The start of section E and the end of section F overlap by 5 m. Sections H and I are centred over the same point but have different array lengths.

Discussion

The resistivity results show a complex pattern to either side of a central circular fountain structure. As this report is in support of excavations carried out by the Cambridge Archaeological Field Group, any attempt at interpretation of the results would be superfluous. The feature running through the centre of vertical section A, and through sections B and C has been exposed in some of the excavations carried out. It is a curved brick tunnel as shown in the pictures below.

Pictures courtesy of Mike Coles and CAFG.

Dr Ian Sanderson 2010