Walkern Report

On 2 Nov 2008 Archaeology RheeSearch carried out magnetometer and resistance surveys to the W of Walkern, Hertfordshire to detect sub surface structures associated with Roman field walking finds.

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

Site coordinators: Julian Evan-Hart

Site conditions: Ploughed and rolled field. Mud adhesion caused operational problems.

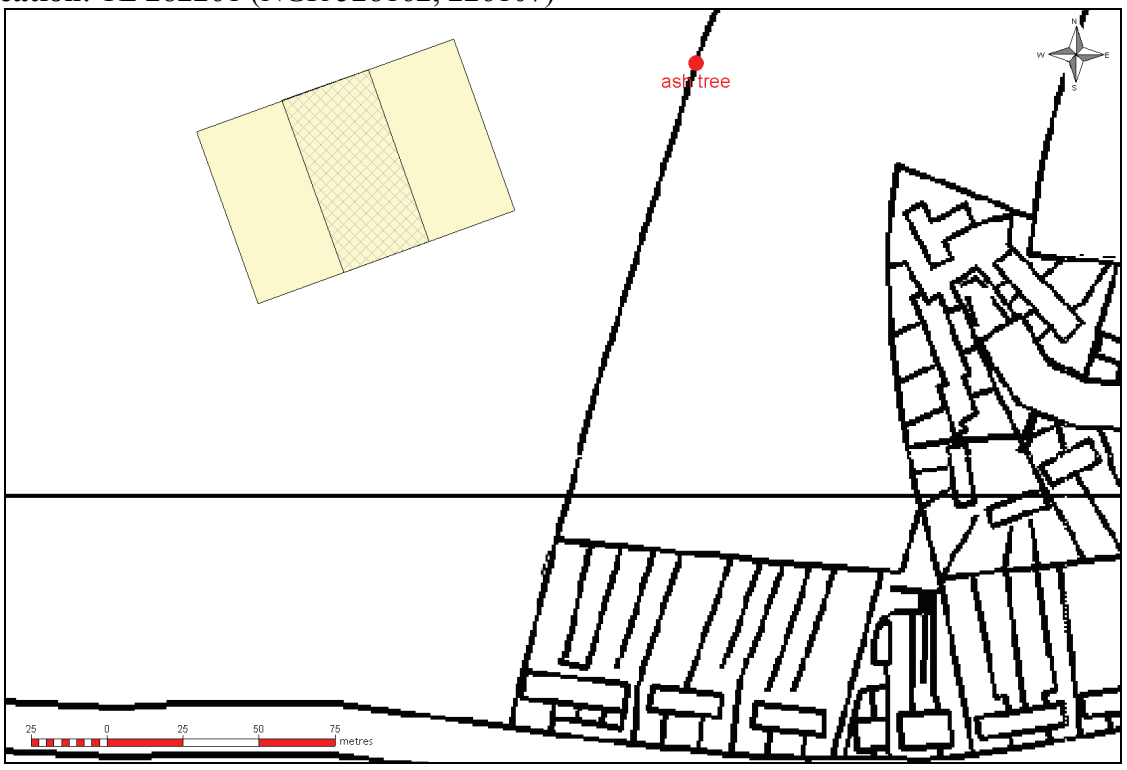
Weather: Cool and damp.

Equipment: TRCIA 50cm twin probe;

Area covered:	Magnetometry	six 30 m × 30 m grids
	Resistivity	one 30 m × 30 m grid, one 30 m × 20 m grid, one 30 m × 10 m grid

On the ground references: The only nearby reference point was a single mature ash tree in the hedge line to the E of the survey area.

Location: TL 282261 (NGR 528162, 226107)



Location plan: The magnetometer survey area is shown in yellow and the resistance survey area shown as hatched.

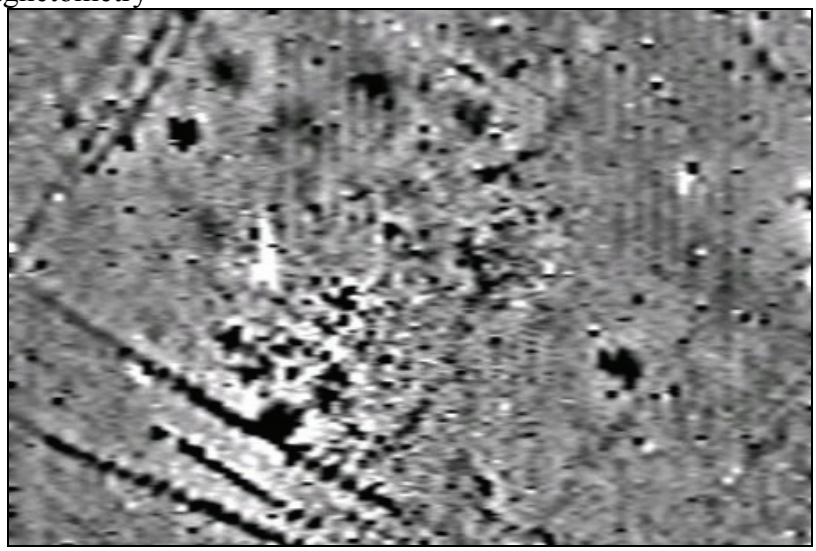
On the ground locators in metres:
Primary references 1 m from root of ash tree (A), 1 m from hedge line 36.8 m S of ash tree (B)
N grid corners N-A 78.7, N-B 79.8, E-A 70.95, E-B 59.06

Purpose of survey: To locate and determine sub surface structures which might indicate that Roman buildings had existed on the site.

Results:

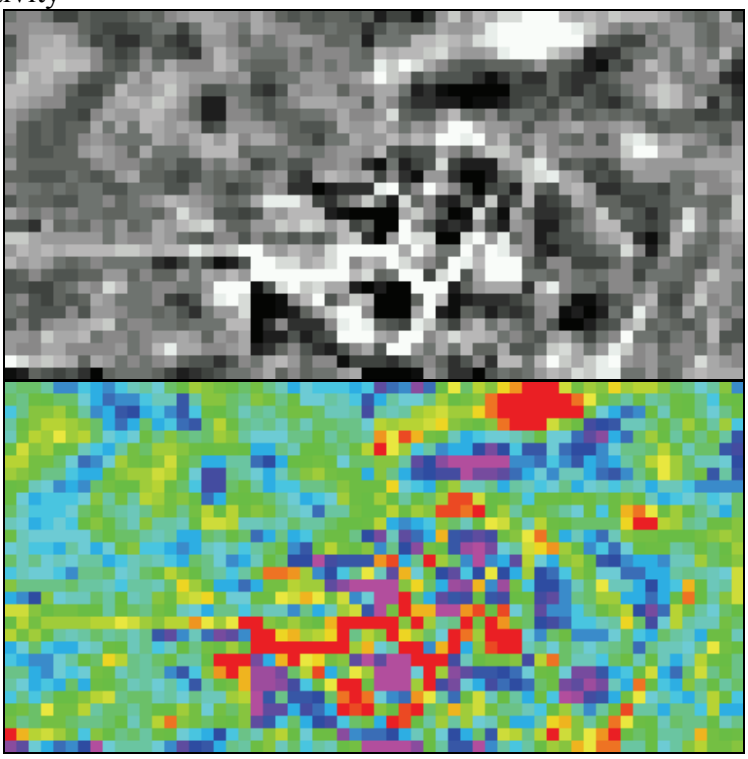
The images in this section are individually scaled and orientated for presentation except where the orientation and scale are shown.

Magnetometry



Magnetometry survey, 90 m × 60 m.

Resistivity



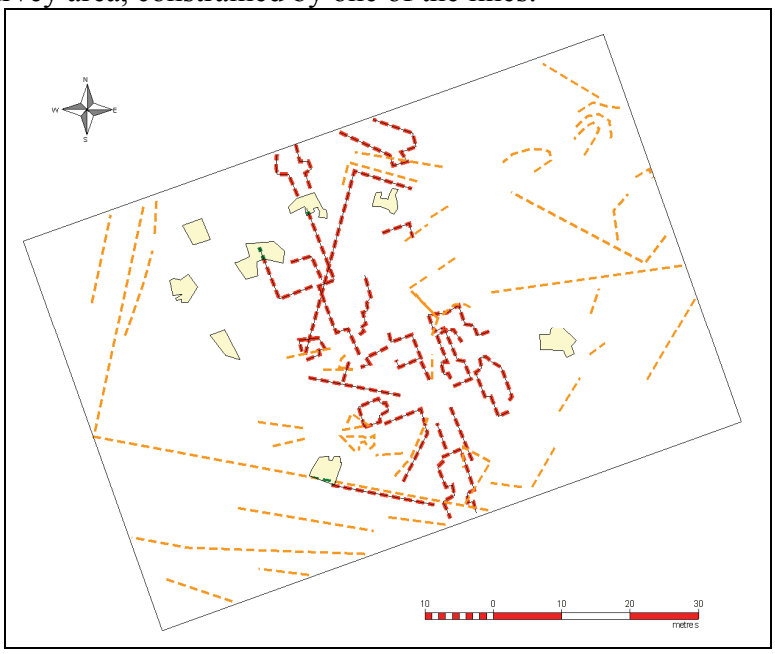
Resistivity survey, 60 m × 30 m. Corrected and noise filtered data in greyscale where white is high resistance and black is low resistance

Resistivity survey, 60 m × 30 m. Corrected and noise filtered data in 'rainbow' scale where red is high resistance and blue is low resistance.

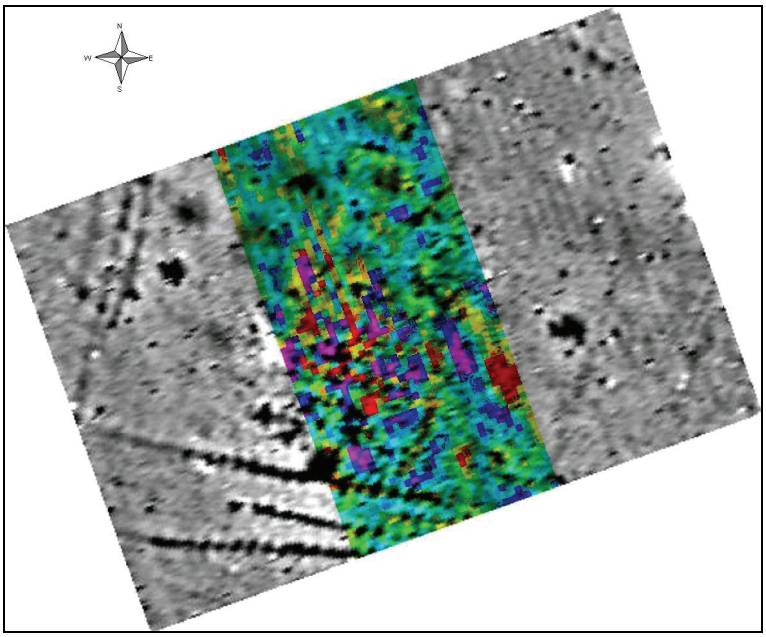
The particularly muddy conditions caused variable probe insertion and excessive accumulation of mud around the probes. This resulted in an inability to balance readings correctly between the two grids and partial disparities within the grids. Despite the problems overall patterns were discernable, but caution should be exercised in comparing signal intensity and discrimination despite attempts to correct the variations.

The resistivity results show two high resistance lines running NNE-SSW with some similar lines running at 90º. These form a rectangle about 7 m x 31 m. There are a number of less well defined features which have an NNW-SSE orientation. A single larger high resistance area is situated on the edge of the survey area to the SE.

The magnetometry results show a series of lines running NNE-SSW with some similar lines running at 90º. In both directions some lines are parallel but others either bend or diverge. There are eight larger discrete areas of higher signal intensity, four of which are sharply defined and the remainder with a more diffuse outline. An area of confused response occurs to the S of the survey area, constrained by one of the lines.



Possible feature lines. Resistivity is shown in red and magnetometry as orange lines and yellow areas.



Resistivity results superimposed on magnetometry results.

Discussion:
The magnetometry results suggest a rectilinear enclosure with some modifications to its position. The generally confused area of responses would suggest scattered building debris which, given the finds evidence provided by the site coordinator, is almost certainly Roman. The resistance data would suggest an aisled villa, but it is surprising that the area of disturbance detected by magnetometry is concentrated towards one end and outside the building area suggested by the resistance data. It is almost as if the building was deliberately demolished with the material stacked at one end, between the building and the enclosure boundary. The strongest of the magnetometry signal areas is the one against a boundary line. It has a well defined square shape and values above that for a simple pit but broadly too low for a kiln. This suggests either the base of a structure made from fired material such as brick or tile, of a pit dug to dispose of similar materials. The apparent misalignment of some of the magnetometry responses suggests boundary ditches without the typical Roman linearity. The resistivity results contain indications of an alternative set of alignments running parallel and at right angles to the long axis of the resistivity survey, but given the difficulties associated with the data collection, these may be spurious.

Conclusion:
The surveys detected rectilinear structures which, supported by the finds evidence, would be consistent with a small Roman villa or large farmstead, perhaps with post Roman use. The boundary modifications suggest it was in place for a prolonged period.

Dr Ian Sanderson 2009