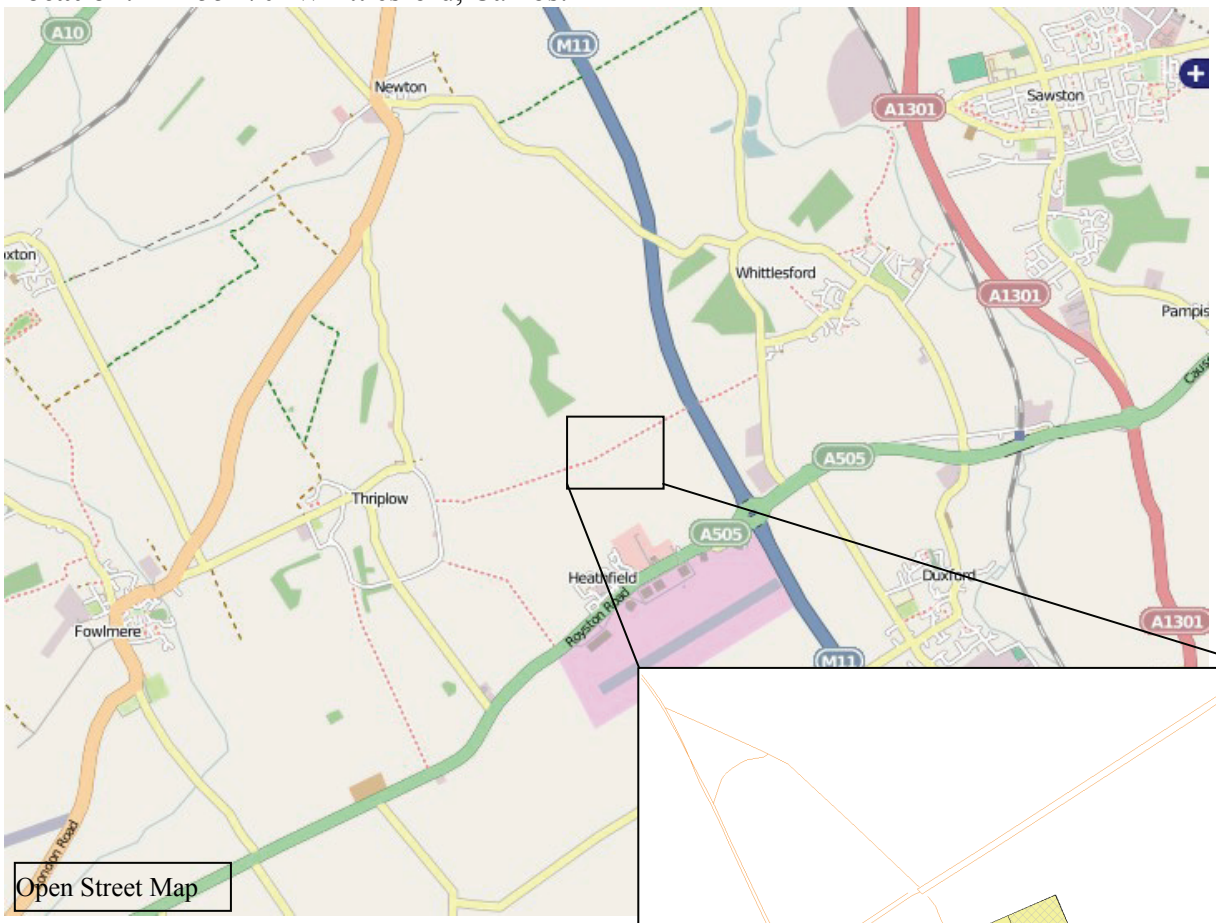
Roman Settlement, Whittlesford, Cambridgeshire (Monument CB 255) Report

In September 2009 Archaeology RheeSearch Group carried out magnetometry and resistivity surveys on this site.
Site liaison: Ashley Arbon
Site conditions: Stubble
Equipment: Bartington 601 gradiometer; TRCIA 50cm twin probe.
Area covered: Magnetometry day 1 six 30 m × 30 m grids
Resistivity day 1 two 30 m × 30 m grids
day 2 one 30 m × 30 m grid, one 30 m × 20 m grid
Location: TL455470 Whittlesford, Cambs.



Location plan: Survey areas.

(resistivity survey area crosshatched, magnetometry area solid).

On the ground location points:
The S corner of the magnetometer grid was 9.15 m from the nearest corner of a footbridge and 2.70 m from a fence post, 3.30 m from a willow and 10.06 and 14.09 m from two cherry trees. The 30 m mark on the W edge was 37.65 m from the willow and 36.10 m from the post. The W corner was 31.43 m from a post close to the junction of the track and the ditch.

Purpose of survey: To determine if any sub surface features could be detected which would explain the concentration of Roman coins found at the site.

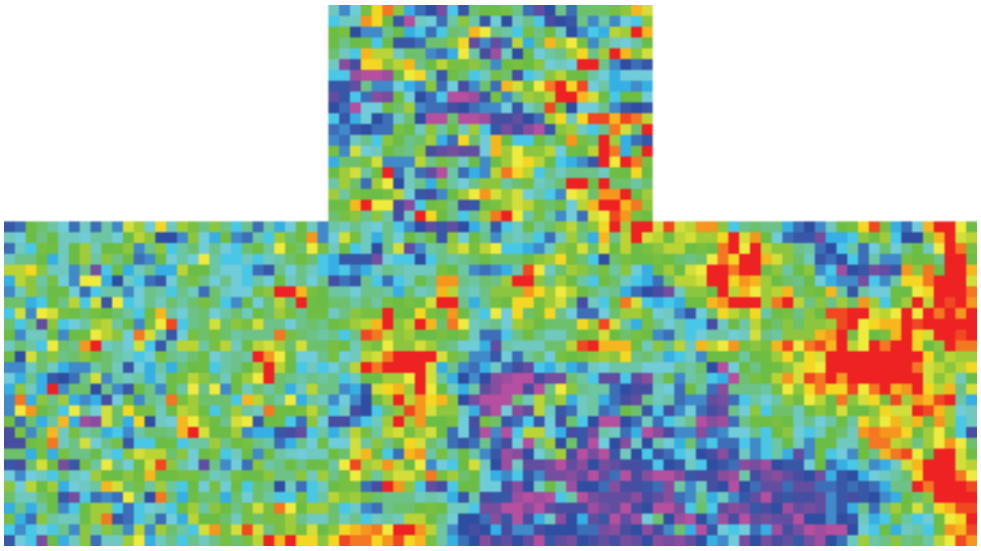
Results:

The images in this section are orientated for presentation. They are not to a common scale. Grid north may be determined by reference to the context diagrams below.

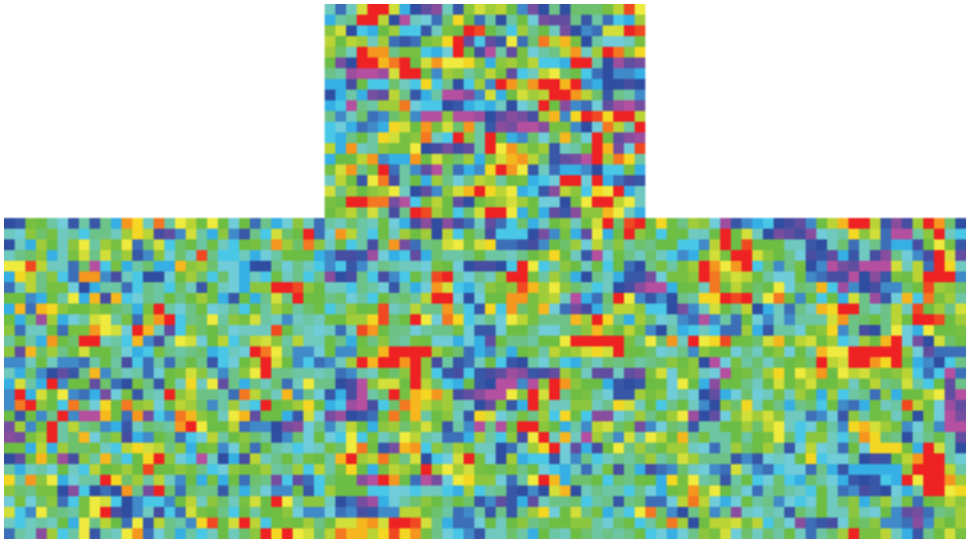
Resistivity
90 m x 30 m plus
30 m x 20 m

Data have been modified to match results collected on different days but no other adjustments have been applied.

(black - low, white - high)



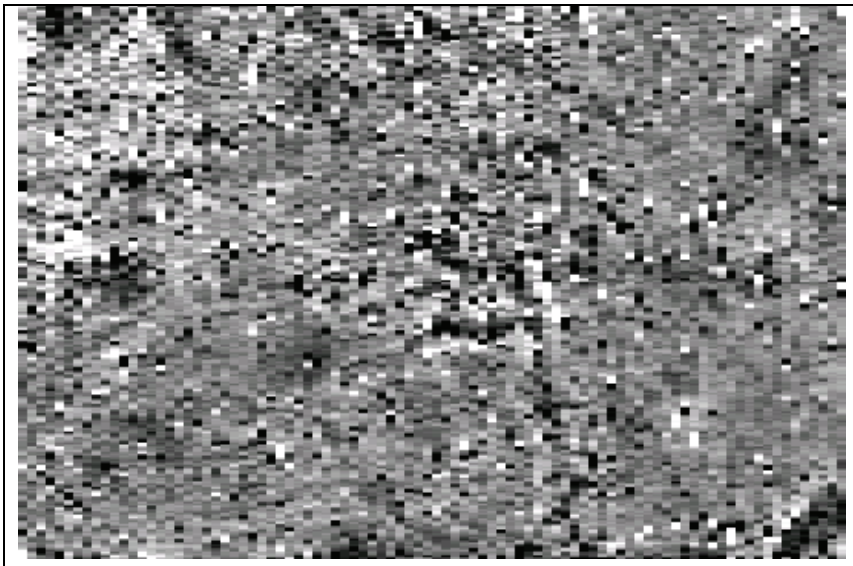
(purple/blue - low, red - high)



Resistivity
90 m x 30 m plus
30 m x 20 m
High pass filter 6

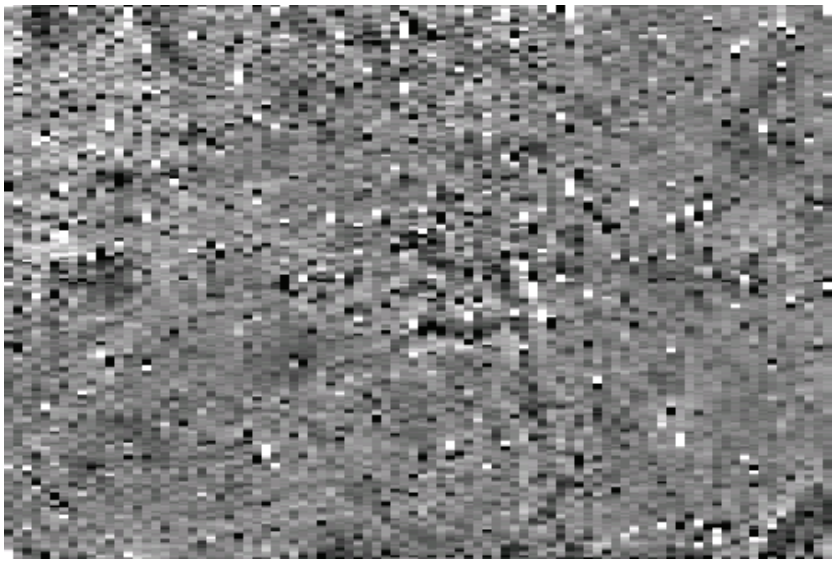
(black - low, white - high)

(purple/blue - low, red - high)



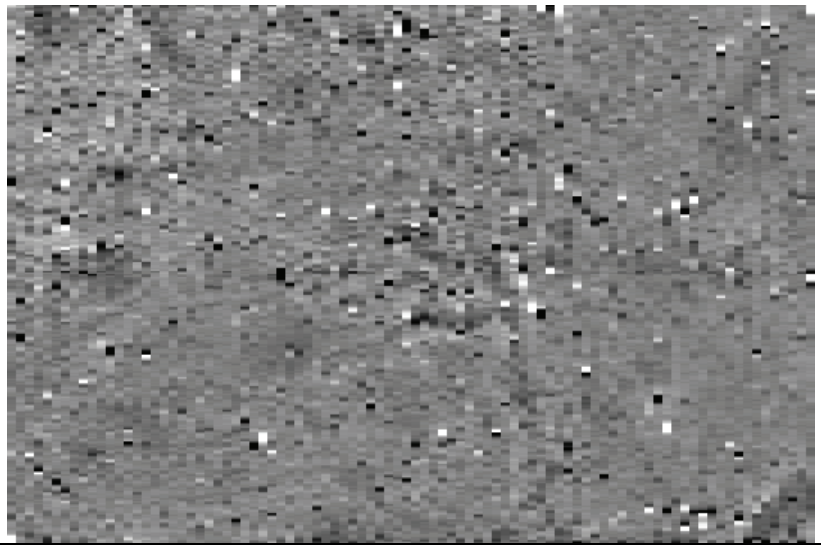
Magnetometry (±1.4 nT)
90 m x 60 m

(black high, white low)



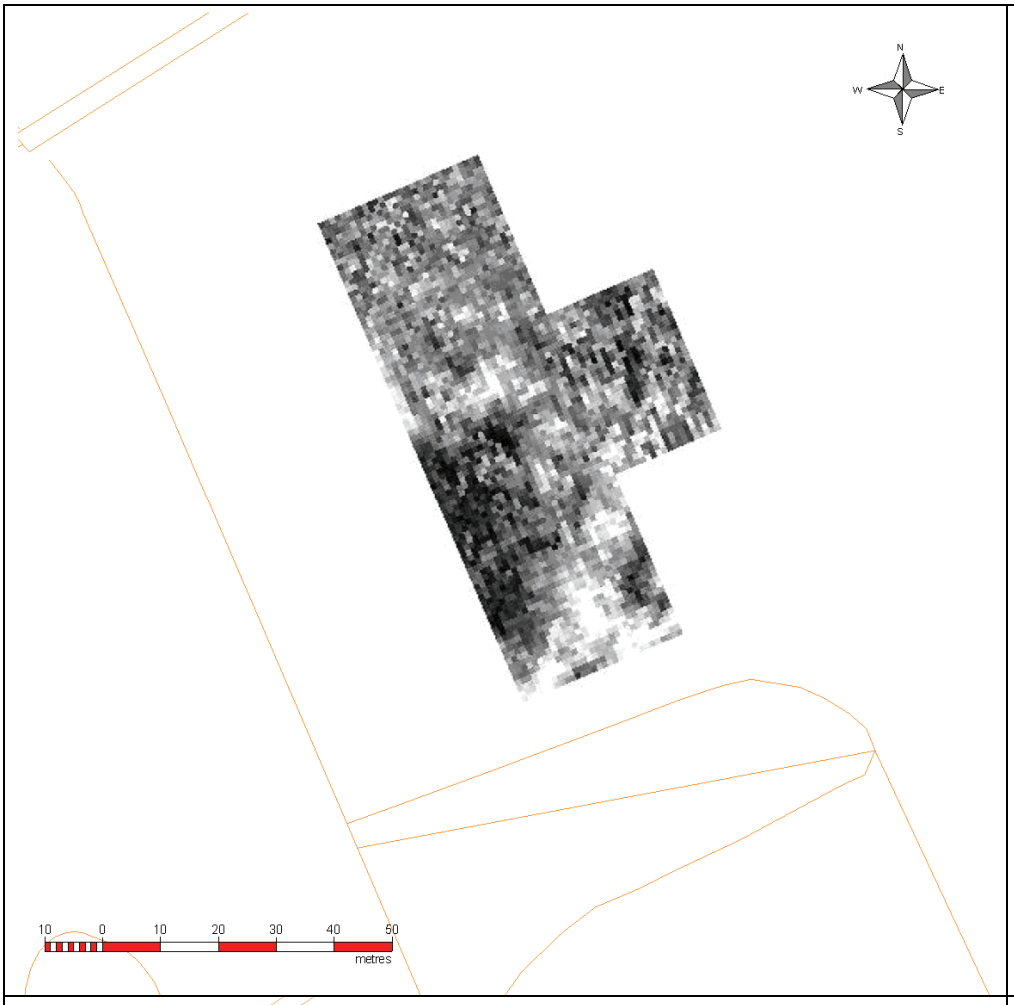
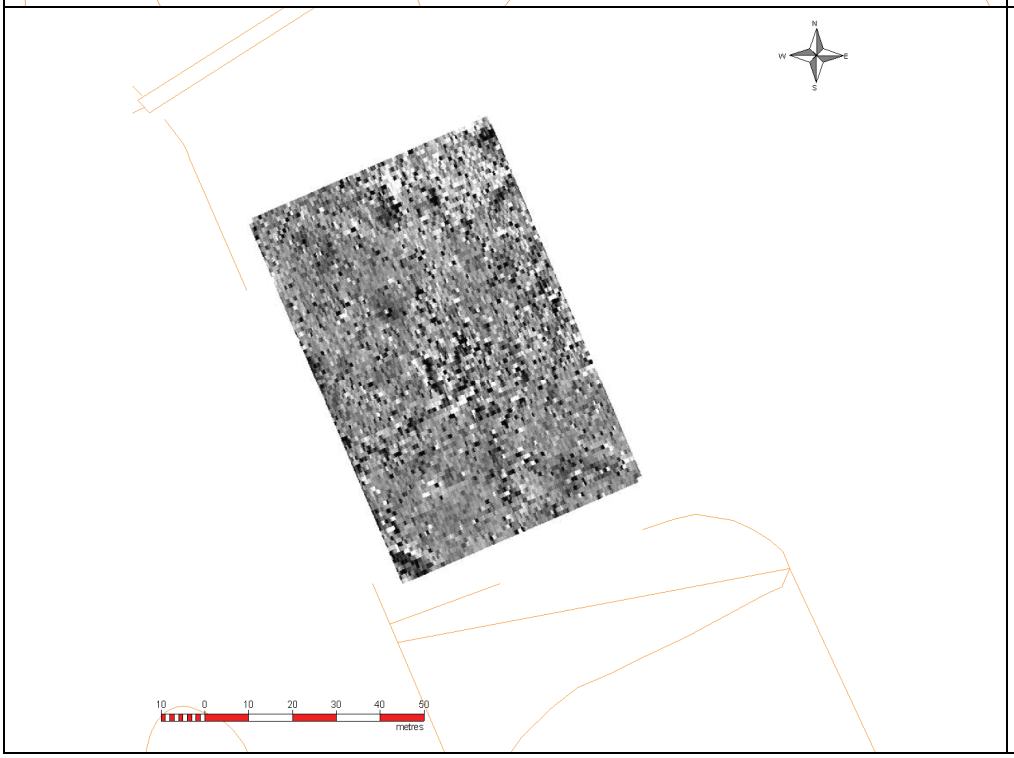
Magnetometry (±3 nT)
90 m x 60 m

(black high, white low)



Magnetometry
(+45, –35 nT maximum)
90 m x 60 m

(black high, white low)

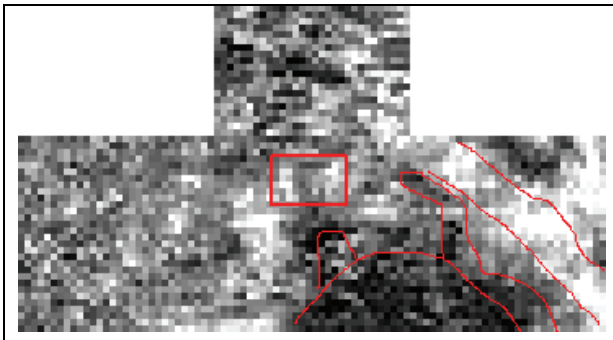
	Resistivity results in context
	Magnetometry results in context

Resistivity

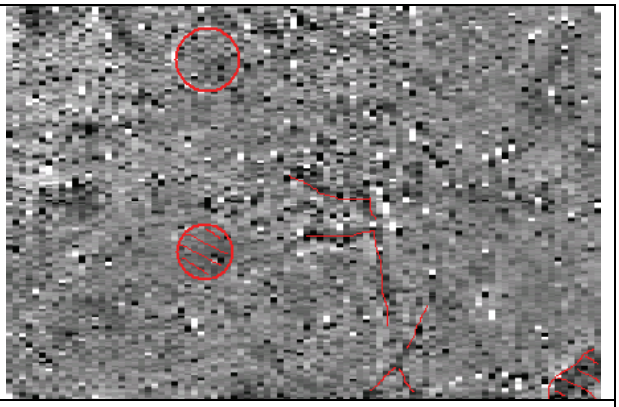
A substantial approximately semicircular area of low resistivity dominates the survey area. This has two low resistivity extensions and is bounded by a band of higher resistivity running almost N-S. However, when a high pass (geology) filter is applied, both of these features disappear leaving a distribution of short high resistivity lines.

Magnetometry

The only clear feature in the magnetometry was a line running from the centre to the SW with two short spurs running to the NE. The main line may split close to the edge of the survey area. Some areas with a stronger response are apparent. One covers the S corner of the survey area, while another appears as a 9 m circular feature to the NW of the centre, N of the W spur. A faint outline of a 10 m circle with a slightly stronger signal inside is located to the NE of the centre.



Resistivity - main features



Magnetometry - main features

Discussion:

The area we were asked to focus on was selected on the basis of a concentration of Roman coin finds. Topographically this was in the level area at the base of a SW facing slope around a pingo remnant depression. The raw resistivity results clearly show the depression with the two extensions probably representing natural drainage courses. The short spur lines in the magnetometry results correspond to the same depression with the longer line leading towards the nearest ditch. These probably represent attempts to drain the pooling area. The lack of crispness in the signal suggests that the course was not kept open for a long period and its weakening towards the W suggests that it did not reach the present ditch line. However, no other ditches were detected. The areas of stronger magnetic signal are probably geological in origin. The faint outline circle could represent an IA hut, but the signal is too weak to do so with any confidence.

The distribution of short lengths of high resistivity in the filtered results is tantalisingly close to forming patterns which could be interpreted as foundation remains. Unfortunately the segments do not link up sufficiently to justify such an interpretation. If there were ever to be an excavation utilising these results the most promising site might encompass the two higher resistance segments which mirror each other slightly NE of the central point of the resistivity survey which are most clearly seen in the greyscale image. These could represent the foundations of gateway overlooking the depression.

Raw data are available as separate appendices.
Magnetometry readings: 8/m, 1 m separation.
Resistivity readings: 1 m interval, 1 m separation.

Report by Dr I Sanderson for Archaeology RheeSearch