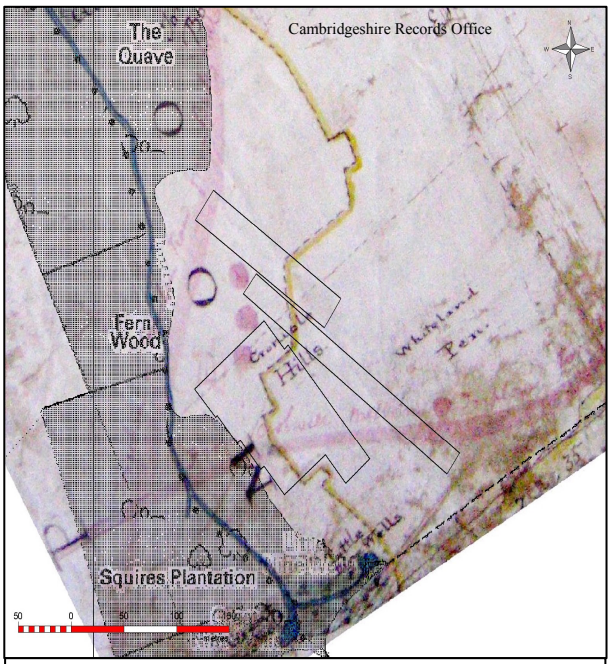
Bath House Field interim report 1.

Between November 2003 and 2007 Archaeology RheeSearch Group (in the early stages as Thriplow Landscape Research Group) carried out magnetometry and resistivity surveys on this site following the discovery of Roman building debris. Given that the adjacent field to the south (SAM255) is said to be a Roman settlement, this site was given the working name of the Bath House Field. Ordnance Survey maps from 1836 onwards mark the site with three or four tumuli as 'Chronicle Hills' which may be a corruption of 'conical' perhaps alluding to similarities with Bartlow Hills. Other commentators suggest that the name is derived from 'Crockelhull' the hill where pottery has been found. The only detailed account of what was found on the site during the levelling of the tumuli appeared in the *Cambridge Chronicle* of 13th November 1818 (and was repeated in the *Gentleman's Magazine* of 1819). Maynard in about 1850 (CRO R58/5/1) mentions seeing as a young boy "*a large portion of a tessalated pavement in a comparatively perfect state*". He also mentions a hypocaust, part of a bath with a length of pipe from the bottom to conduct the water away, pottery, roof tiles, rooms and walls, oyster shells and a marble vase.


Cambridgeshire Records Office

He provides a map and picture with the estimated positions of the mounds at Chronicle Hills, as well as a sketch of Roman materials discovered. It is possible that Maynard is not distinguishing between the levelling of the mounds and the exposure of Roman materials which may have taken place later.

The newspaper story actually describes the three mounds at Chronicle Hills with a flint wall to the east and a well further to the east and two 'sepulchres' 100 yards to the north, the latter with soros burials and dwells heavily on the vast amounts of shrew mice bones within. Later commentators, including Maynard, seem to use the same source material.



Maynards map with tumuli marked and the magnetometer survey areas outlined. The accurate superimposition of older plans on modern maps is imprecise in the absence of nearby points of reference on both. In this case the course of the stream appear to be unchanged, suggesting a potential discrepancy of the order of 15m.

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

Site Farmer: Leslie Harrison

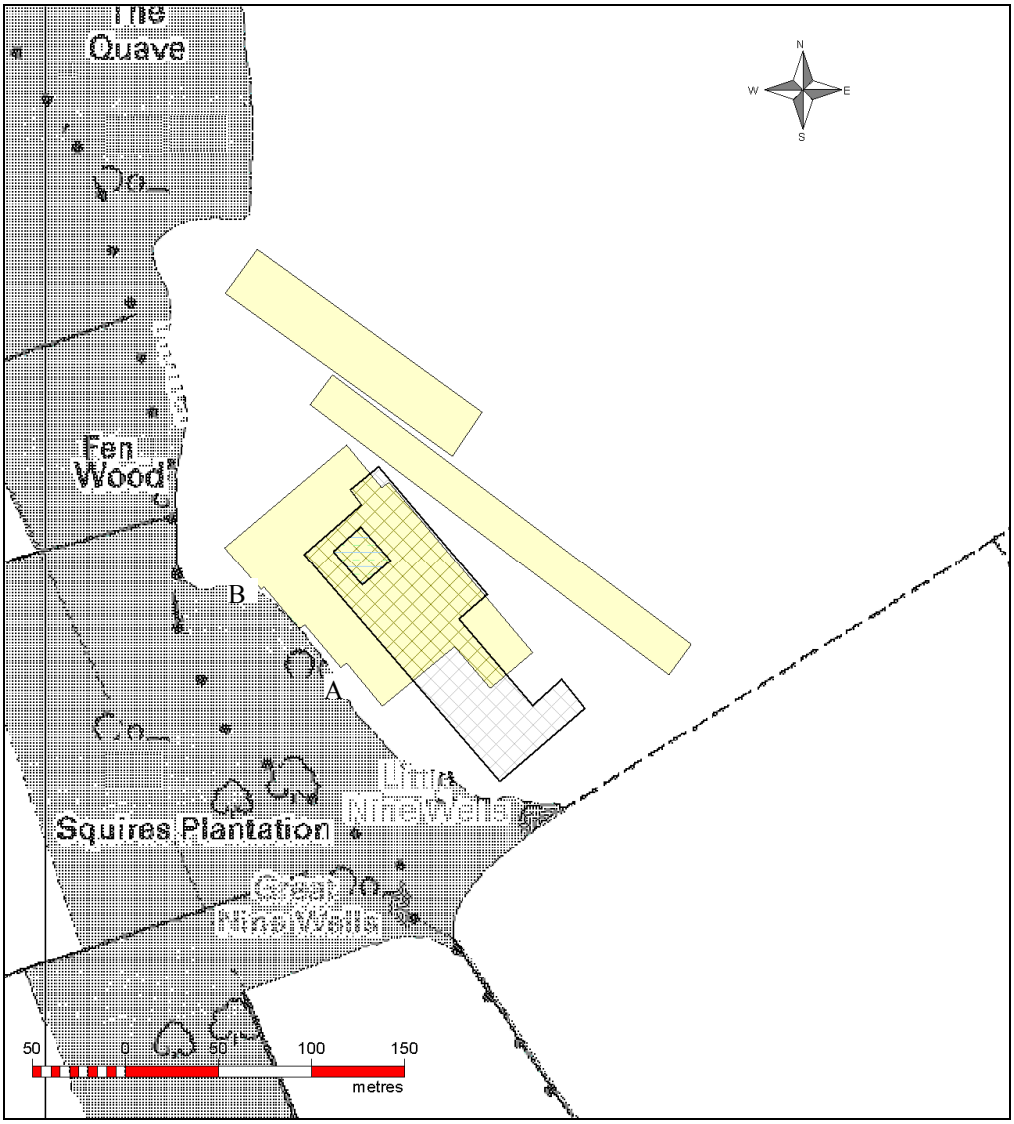
Site conditions: Surveying has taken place under a range of cereal crop field conditions: freshly ploughed, with crop up to 10 inches high and with stubble. A band of non-cereal crop with different access availabilities has to some extent determined the areas surveyed.

Equipment: Bartington 601 gradiometer; TRCIA 50cm twin probe.

Area covered:	Magnetometry	nineteen 30 m × 30 m grids
		twelve 20 m × 20 m grids
	Resistivity	twenty one 20 m × 20 m grids

Location: TL 452 475.

Images are orientated with north to the top of the page except where stated otherwise.



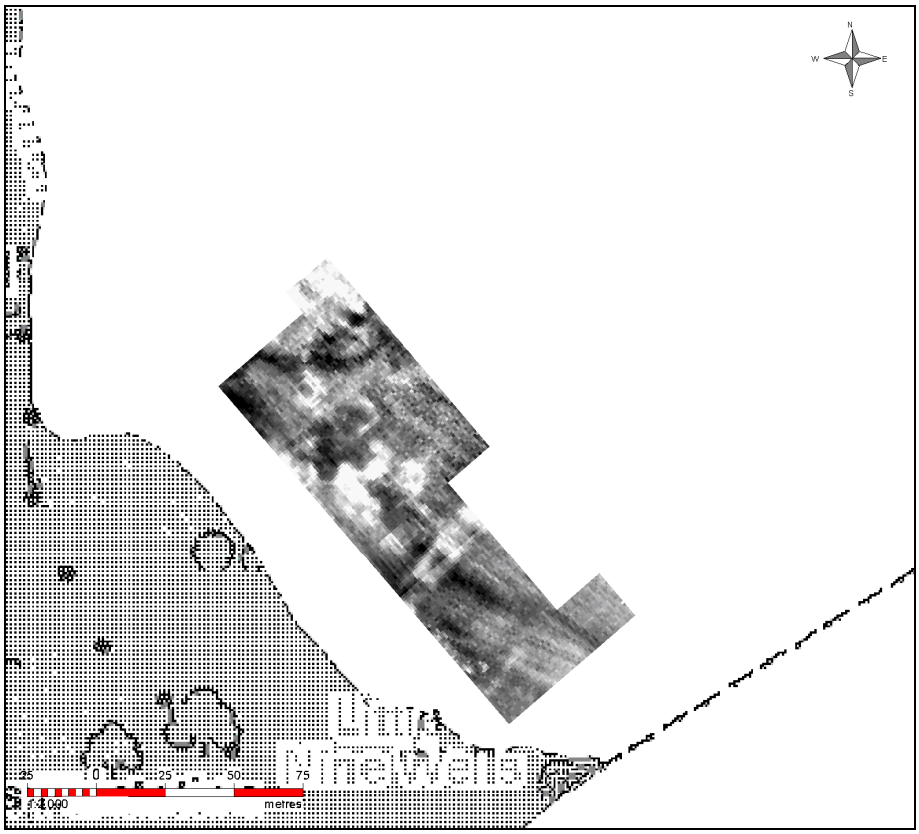
Location plan: Survey areas

(resistivity survey area crosshatched, magnetometry area solid.
Horizontal hatching half spaced resistivity).

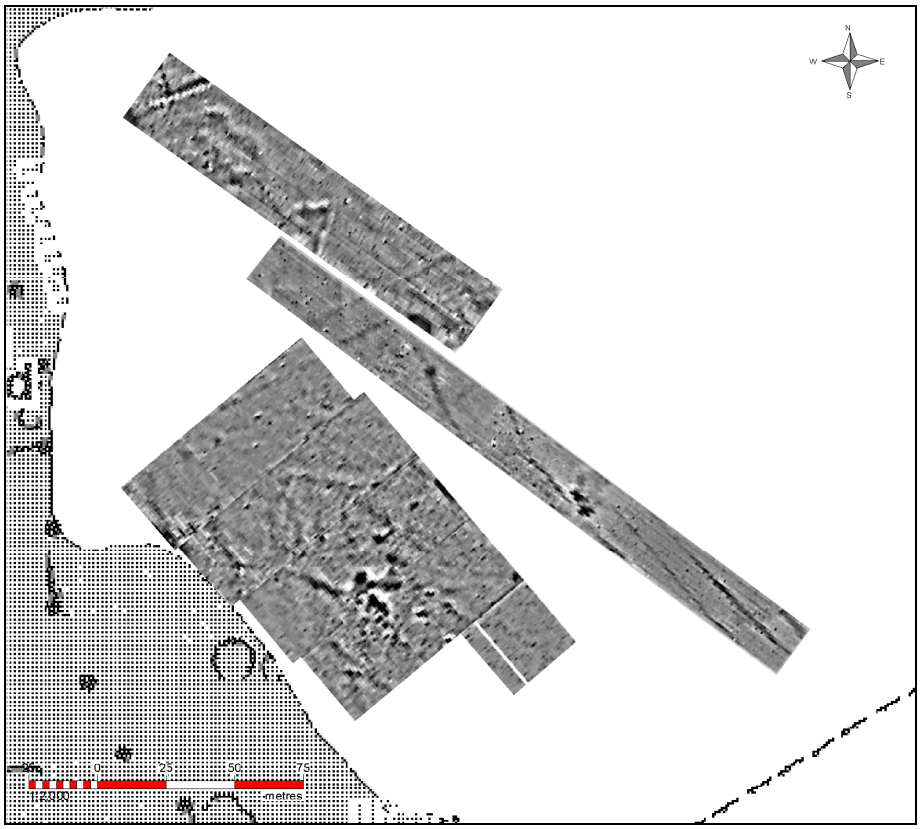
On the ground location points:

No good reference points are available for this site. A tree on the wood edge with an A shaped scar on the trunk is marked as point A and the SE support of a watch tower is marked as point B on the plan To a point 40m SE from the W corner of the resistivity survey shown A 48.78 m B 55.78 m. To a point 60m SE from the W corner of the resistivity survey A 35.5 m, B 72.57 m The grid reference points being 20.0 m apart.

Purpose of survey: To determine if any subsurface structures were detectable which would indicate the site of buildings or levelled tumuli.

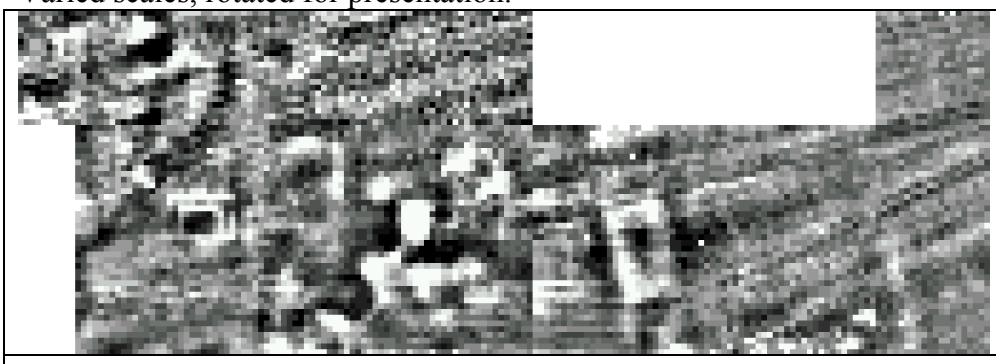
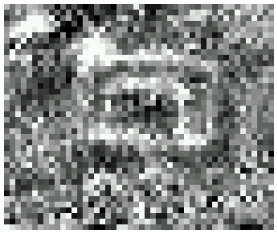
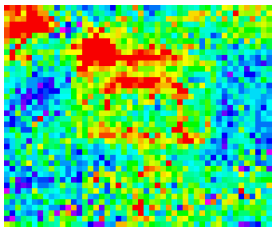


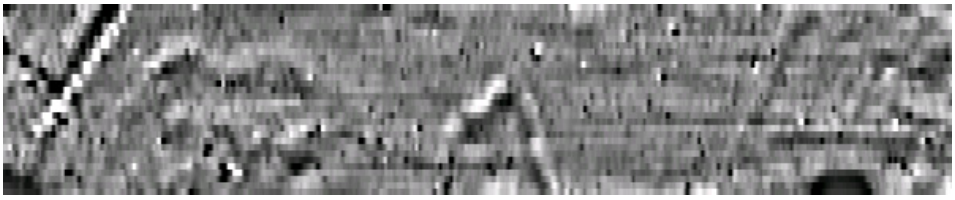
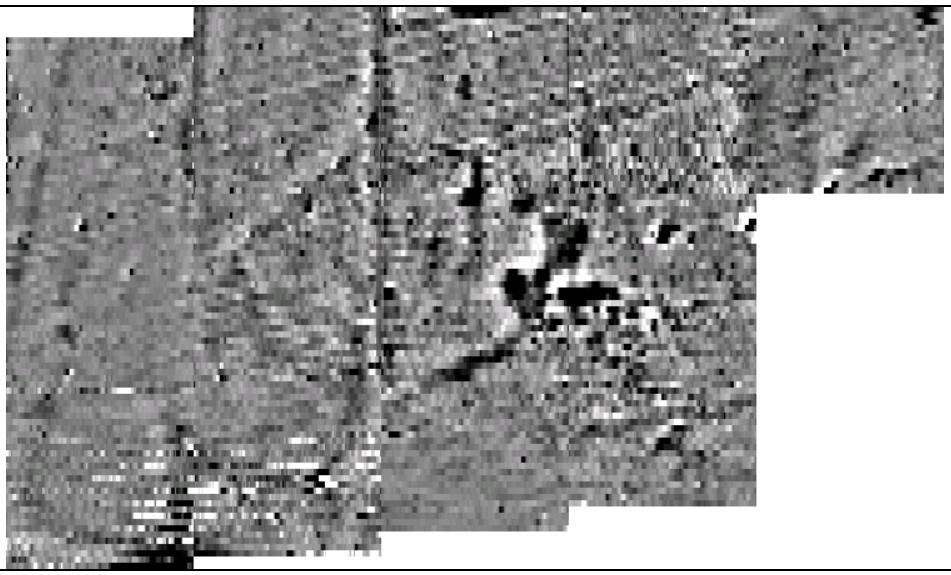
Resistivity results in context



Magnetometry results in context

Results:
Varied scales, rotated for presentation.

	Resistivity results, overall area 90 m × 60 m at 1 m interval and 1 m spacing (black high, white low)
  These images represent a more detailed survey of the structure located on the far left of the wider area survey above.	Resistivity results, 20 m × 24 m at 0.5 m interval 0.5 m spacing (black high, white low or purple/blue low, red high)

	Magnetometry results, 150 m × 30 m (black high, white low)
	Magnetometry results, 240 m × 20 m (black high, white low)
	Magnetometry results, 150 m × 90 m (black high, white low)

Resistivity

The resistivity measurements show a complex pattern of building foundations in the lower centre which corresponds to the greatest density of building debris observed during surveying. Two distinct rectilinear structures were detected to the left and right. The structure on the left was surveyed in greater detail, which revealed an aisled foundation approximately 9 m × 8 m with an aisle width of about 1.8 m. The structure to the right was about 15 m × 10 m, though the lower right portion gave a reduced discrimination making size assessment difficult. Part of another rectilinear feature may be immediately above and to the right of the aisled feature. The whole of the surveyed area shows the ploughing line currently in use, which curves down from the right and proceeds as a shallow diagonal to the lower left. The plough lines at the top have a separation of about 7.5 m which suggests residual ridge & furrow along the same alignment as the current ploughing line. There appears to be a ditch-like structure passing close to the aisled feature on the left.

Magnetometry

Overall the magnetometry results show a complex array of strong responses in the area which corresponds to the greatest density of building debris observed during surveying. There are two pairs of linear features, probably representing road or track edge ditches. One runs SW-NE and has a separation of about 11 m, the other runs NW-SE with a separation of about 10 m.

In the northernmost survey area the linear feature to the NW reflects the edge of the ploughed area of the field. The triangular feature does not appear to continue into the middle magnetometry survey area. There appears to be another group of responses to the SE of the ploughed edge line which corresponds to a low area on the ground.

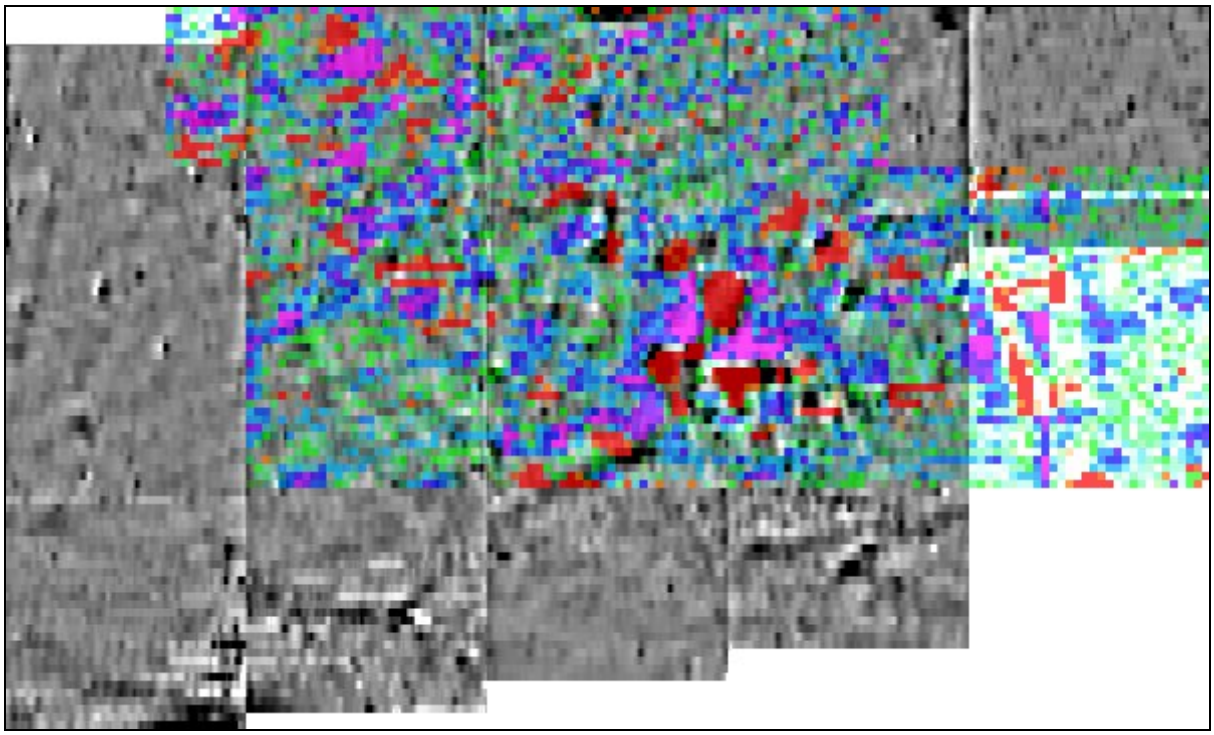
The area surveyed in the middle strip of the overall magnetometry results was dictated by a long narrow strip of alternative cropping; this makes it difficult to integrate the results into the wider area. It shows a series of linear responses running NW-SE and at right angles. This suggests they are all related with the extended pair, and the pair detected in all three magnetometry survey areas, representing ditch boundaries to a track.

The southern and largest magnetometry survey area shows a complex area of strong responses in the region corresponding to the greatest density of building debris observed during surveying and to the left (N), the line of a road edge ditch running across all three survey areas. Plough line traces are especially apparent towards the top, but occur throughout lacking the even spacing which would otherwise suggest ridge & furrow. Some vertical grid edge effects are apparent, arising from matching data from the protracted period of surveying. Processing to remove this effect is possible, but can induce spurious effects in the final image. There is one line which may form part of a rectilinear feature which has an alignment similar to but differing from the ploughing line.

Correlations

Magnetometry and resistivity detect different aspects of subsurface structures and should not therefore be expected to show the same features. The differences and coincidences in what is detected can sometimes add further information about those structures.

Superimposing the resistivity and magnetometry results in this case shows a good central area correspondence between strong magnetic signals and areas of high resistivity outlined by areas of low resistivity. The aisled structure, clearly visible in the resistivity results, has no magnetic signal. There are several other areas of high resistivity with no corresponding magnetic signal. Very few low resistivity areas have magnetic signals. Three apparently isolated areas of high resistivity, to the right and slightly above the aisled structure, form part of another rectilinear feature when combined with the magnetometer responses.



Superimposition of resistivity and magnetometry results

Aerial photograph 2006 (looking NW). The lines within the green alternative crop area are due to farming practice rather than archaeology.

Discussion:

This is a complex Roman site probably related to a nearby settlement. Given the presence of barrows persisting to the 19th century, it is tempting to suggest that the site may have had religious rather than functional significance during Roman occupation. A thorough review of this site, which incorporated some of the data presented here, has been made by Taylor and Arbon (PCAS XCVI 2007 pp21-40)