

Hoffers Brook Report

In 2012 Archaeology RheeSearch Group carried out magnetometry and resistivity surveys on this site.

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

Site liaison: Mr Bannister.

Site conditions: Grazed paddock.

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

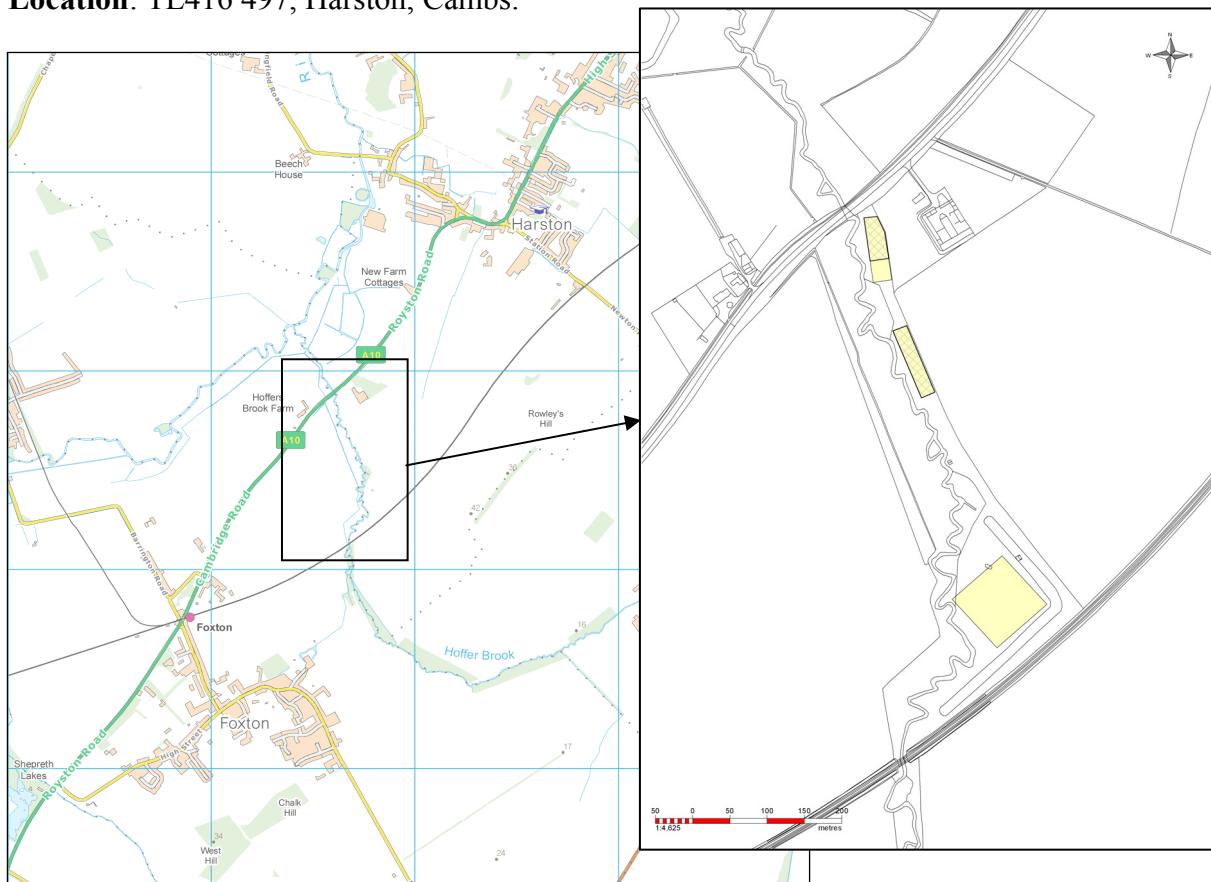
Magnetometry readings: 8/m, 1 m separation.

Resistivity readings: 1 m interval, 1 m separation.

Wenner Array: 30 probe array at 0.5 m spacing.

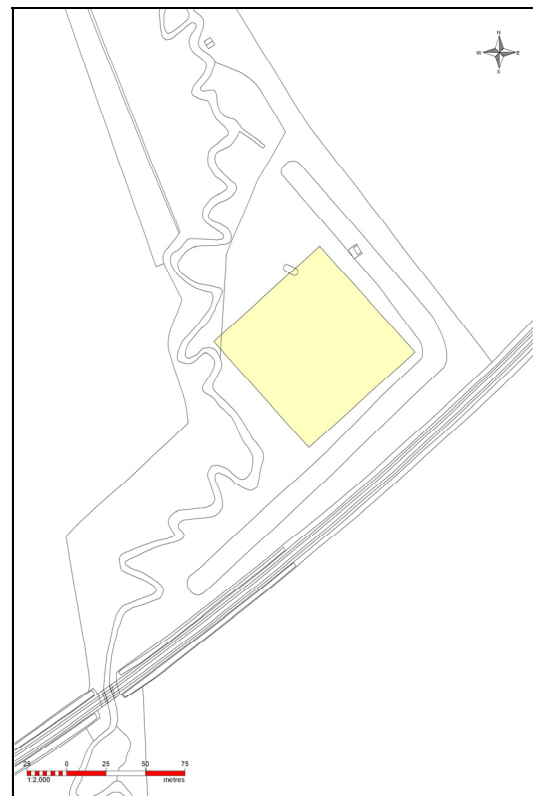
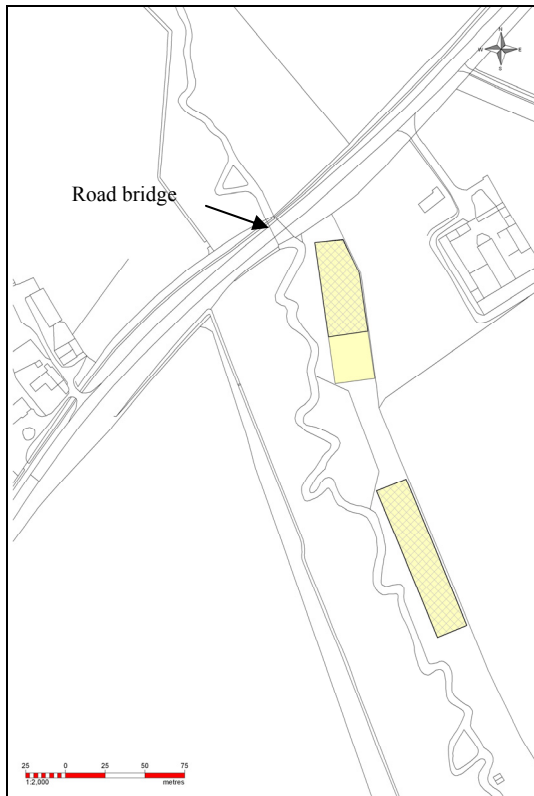
Raw data are available as separate appendices.

Location: TL416 497, Harston, Cambs.



Location plan: Survey areas
(resistivity survey areas hatched, magnetometry areas solid)

Purpose of survey: The purpose of this survey was to determine if any subsurface features could be detected



Location plan: Detailed survey areas
(resistivity survey areas hatched, magnetometry areas solid)

Site topography:

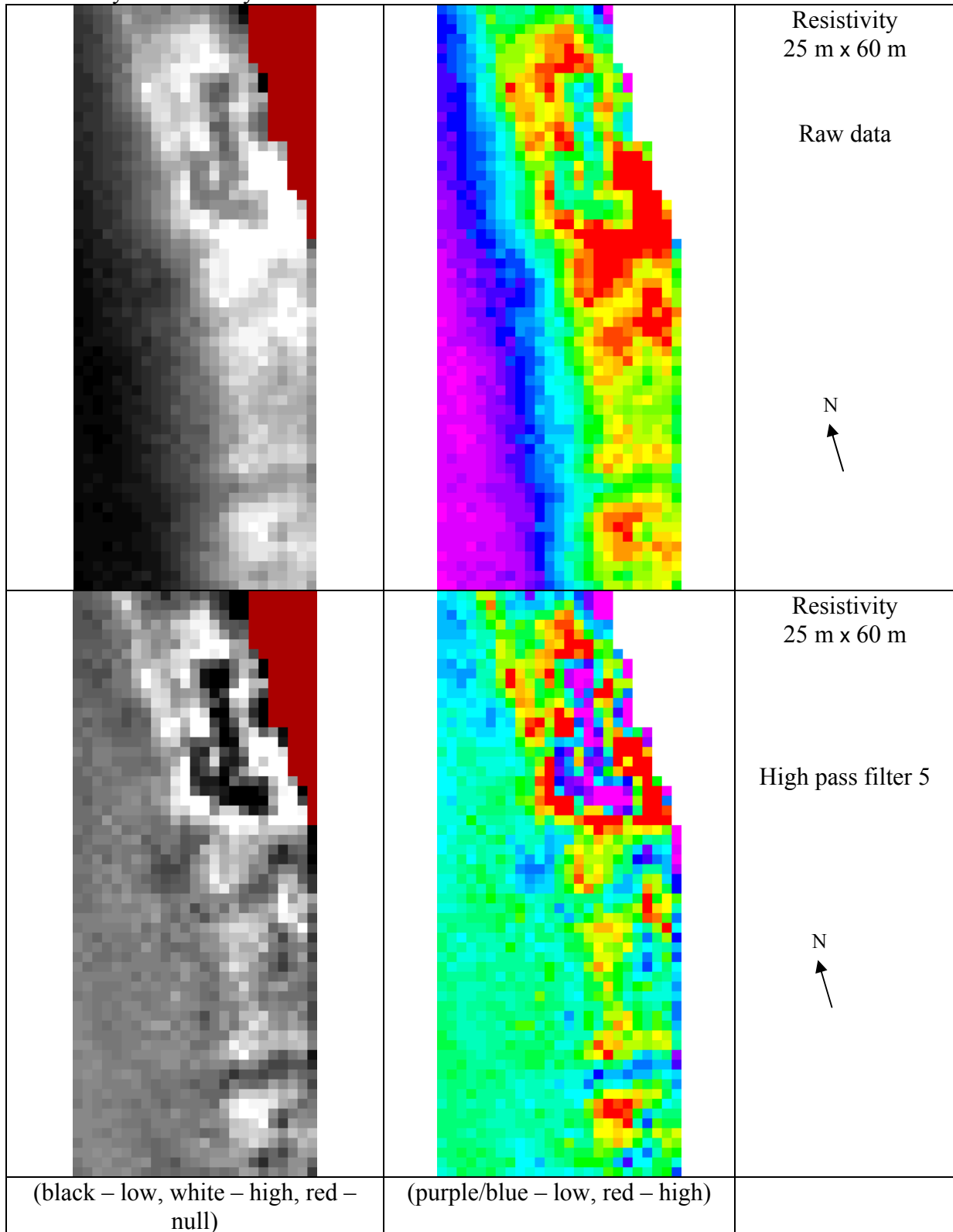
The site comprised a strip of level paddock next to Hoffers Brook between the A10 in the N and the King's Cross to Cambridge railway line in the S.



Results:

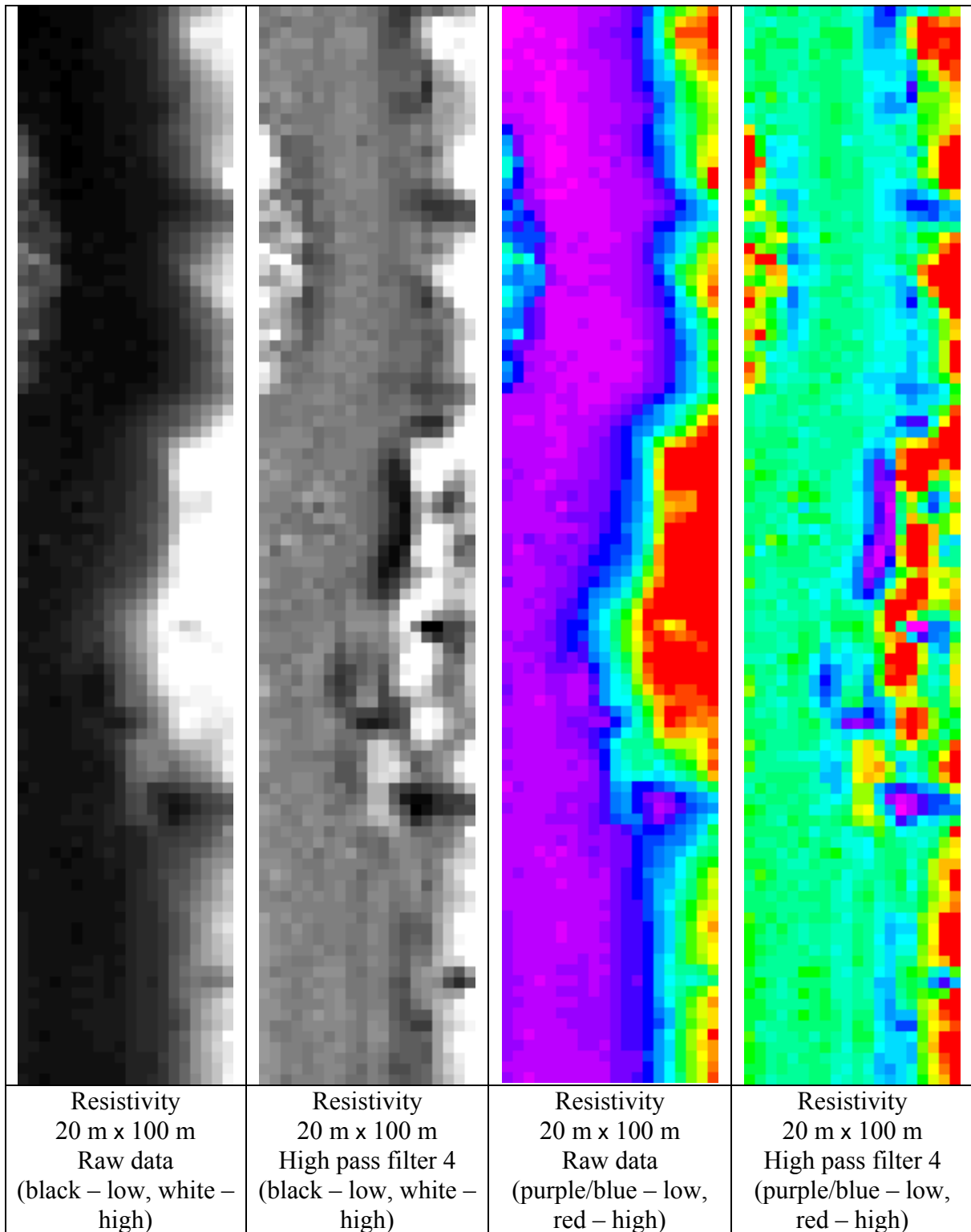
The images in this section are orientated for presentation. The images are not to a common scale.

Resistivity north survey





Resistivity central survey

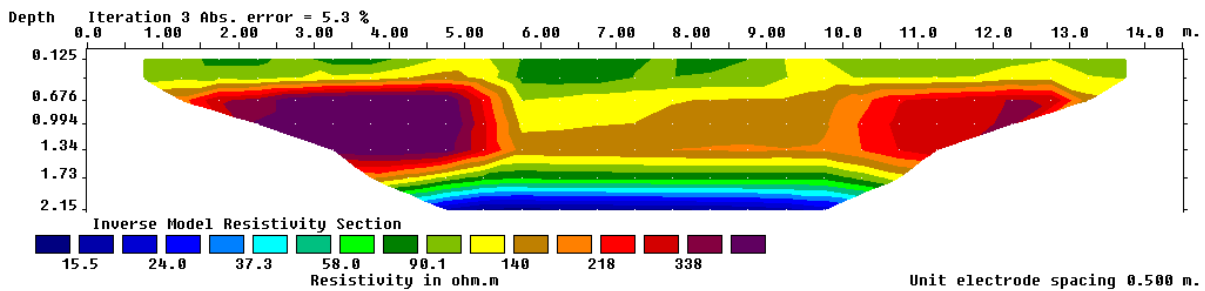
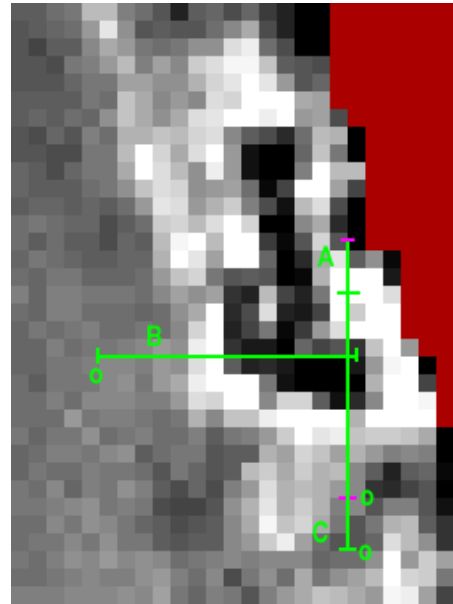




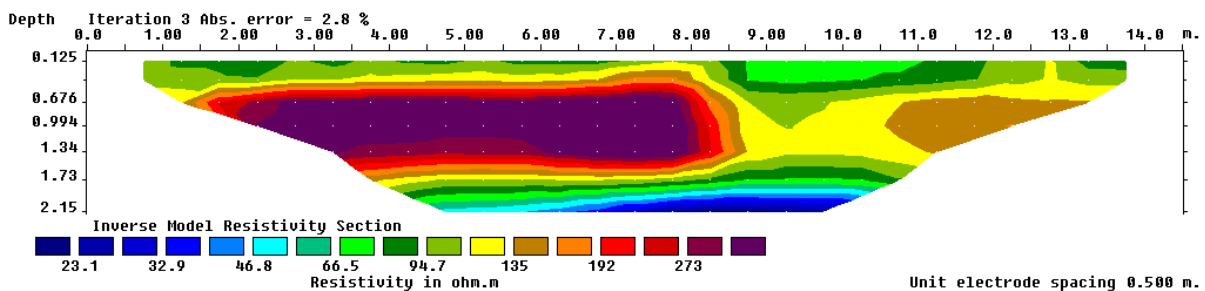
Wenner Surveys

Three Wenner surveys were carried out to explore features found in the N planar resistivity survey. Using the same principles as a planar resistivity survey, a Wenner survey produces a vertical slice showing variations of resistance with depth along a line. The image produced is essentially a linear regression model which can be influenced by the various parameters used in the model. The images presented here all used the same processing method and parameters. The result of the first Wenner survey was unexpected, but was confirmed by one of the two surveys carried out 7 months later.

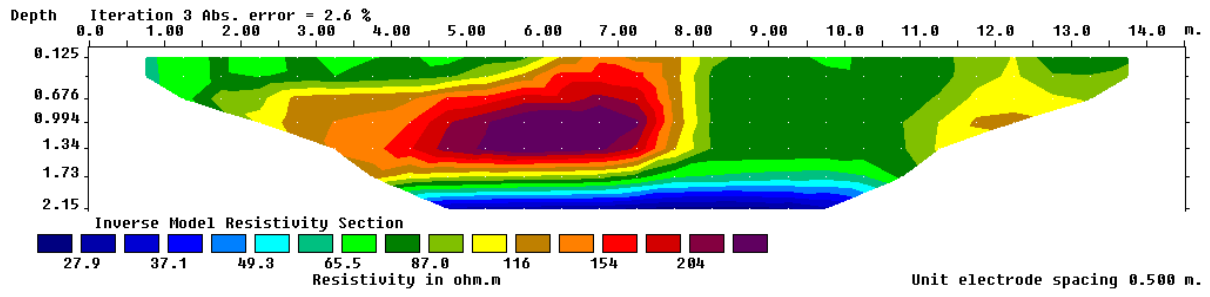
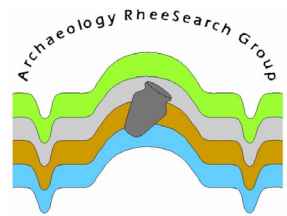
Part of the N planar resistivity survey showing the lines of 3 Wenner surveys. Lines A and C were along the same line with a displacement of 3 m. Starting points are shown by "o". Start and end points of the initial survey (A) are shown in purple.



Initial survey (A)

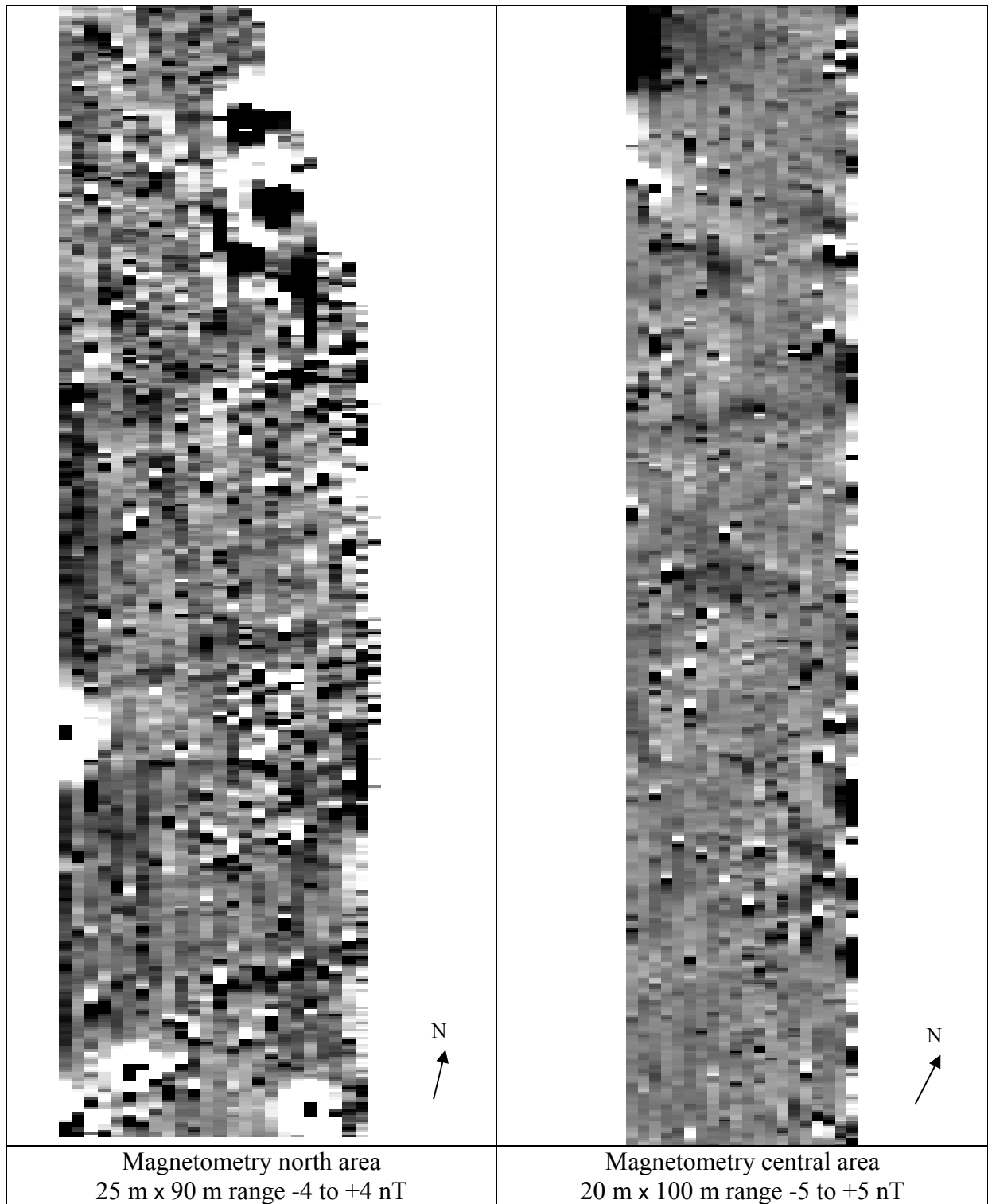


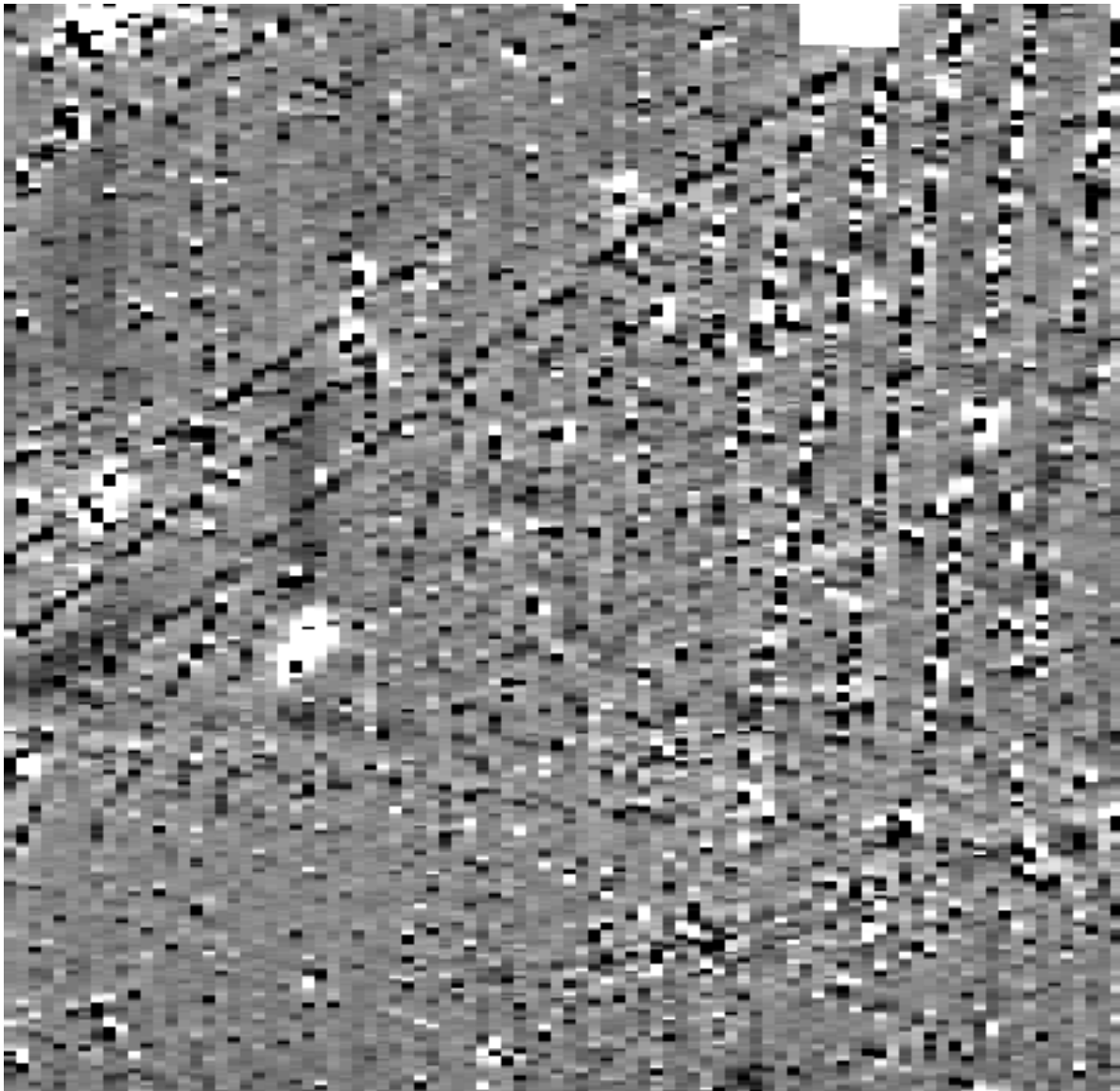
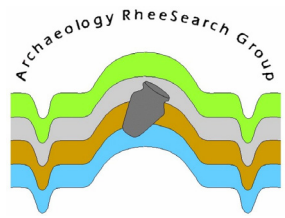
Later survey along the same line as initial survey but displaced by 3 m (C)



Later survey at a right angles to initial survey (B)

Magnetometry





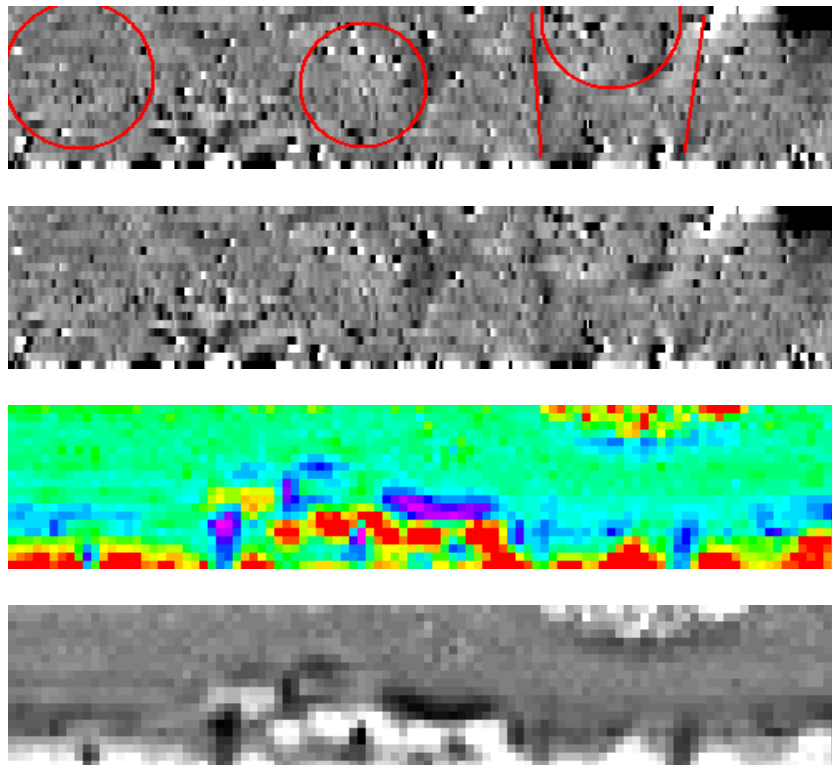
Magnetometry south area 90 m x 90 m range -2 to +2 nT

Discussion:

The magnetometry of the south area is dominated by a series of linear features orientated towards the N corner or towards one of those lines. This suggests a field drainage system. Two more subtle features cross the survey area, one about 15 m N of, and almost parallel to, the SE side of the survey, the other running WNW from about 20 m SW of the E corner of the survey area. These linear features are probably trackways.

The central area surveys were constrained by the brook on the W and hedging on the E. The magnetometry survey had no clearly defined features which is often the case in areas liable to flooding, but had degraded indications of at least 3 barrows and 2 linear features. The latter both have corresponding low values on the E boundary of the resistivity survey. The resistivity also showed some more extreme values near the W boundary in the vicinity of, but not exactly matching the potential N barrow seen in the magnetometry. It is worth noting that

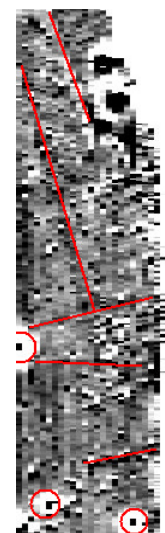
two bronze age barrows were excavated in 1991 (Malim 1993), one about 60 m and the other about 120 m away from this site. The latter being about 45 m from the brook.



Annotated central area magnetometry, magnetometry, coloured resistivity and greyscale resistivity plots with the same scale and orientation for comparison

The principal feature in the central resistivity survey is a marked displacement to the W of the high values line running along the E boundary of the survey. It is likely that where these high values are on the edge of the survey the effect is due to the hedging. The displaced segment may reflect a feature extending beyond the hedge line to the E.

The resistivity in the north survey area is dominated by a cluster of partial rectilinear high responses surrounding a block of very low values about 30 m from the road bridge. This corresponded with a cluster of magnetic anomalies which were unfortunately partially affected by the adjacent metal fencing. Wenner surveys suggest that the edges of the block of low resistance values are almost vertical and about 1.5 m deep. The planar resistivity results are characteristic of building foundations but the Wenner results do not show the discrete columns of high values which might be expected. Three point anomalies and several linear features were also noted in the magnetometry results.



Annotated north survey area magnetometry results

Reference:

Malim T., 1993 Proceedings of the Cambridge Antiquarian Society 82, pp 11-54