

Foxton West Hill Mill Magnetometry Report

In 2004 the Thriplow Landscape Research Group carried out a resistivity survey on this site (CHER ref MCB17696) attempting to locate a ring ditch crop mark. No evidence of a ring ditch was apparent but a division in the ditch line included in the survey area was felt to be consistent with a possible mill site. Since then the group has changed its name to the Archaeology RheeSearch Group and obtained a magnetometer with a grant from the Local Heritage Initiative fund, and it was thought worthwhile to do a magnetometry survey of the site. This was carried out on 11 August and 2 September 2007. In addition, on the latter occasion the area of the resistivity survey was extended.

Members participating: Brian Bridgland, Pat Davies, Carl Knight, Josh Knight, Liz Livingstone, Bruce Milner, Ian Sanderson, Ann Sanderson, Emily Sanderson, Maureen Storey, Tony Storey.

Owner: Richard Barnes.

Site conditions: Stubble. Access road to the north of the site.

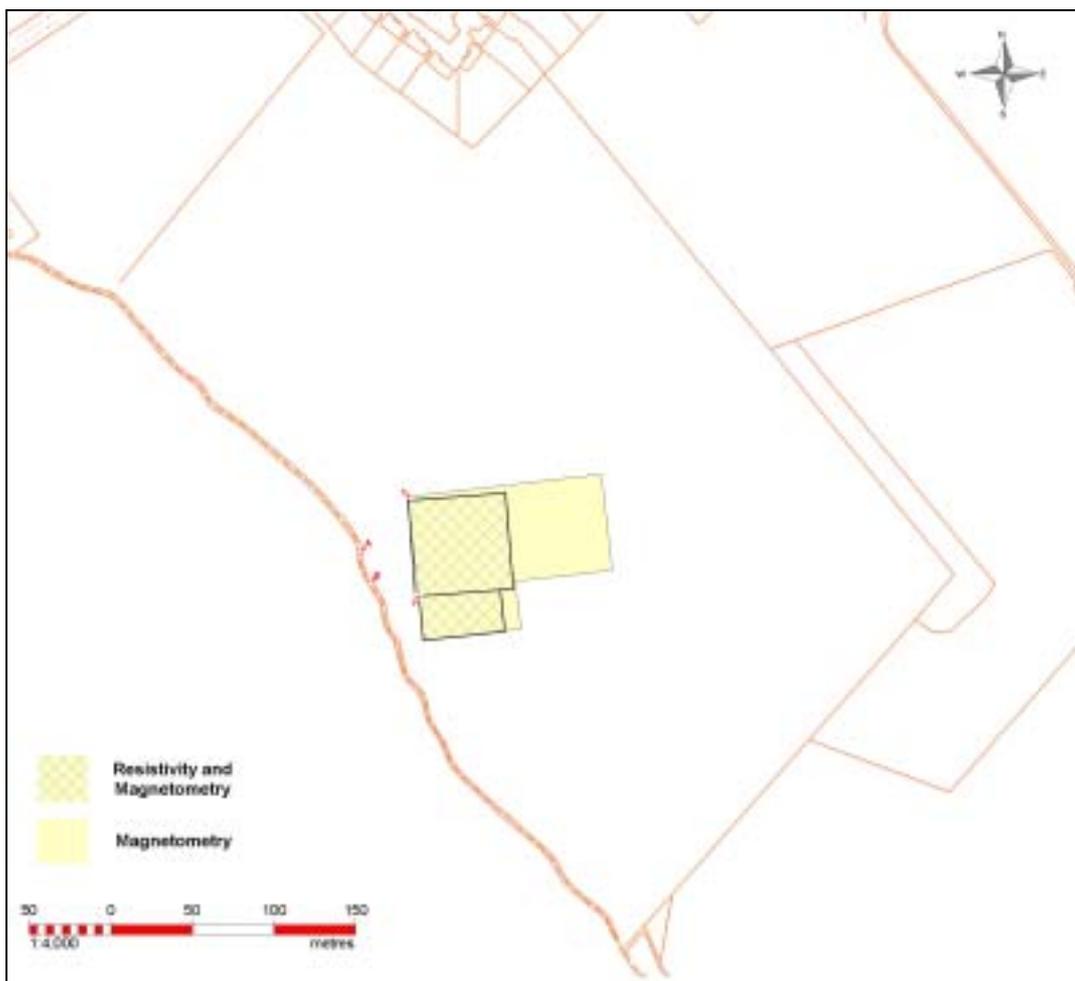
Equipment: Bartington 601 gradiometer; TRCIA 50cm twin probe.

Area covered:

Magnetometry day 1	four 30 m × 30 m grids
Resistivity day 2	one 30 m × 30 m grid, one 30 m × 20 m grid
Magnetometry day 2	six 30 m × 30 m grids

Location: TL 407 475 on the west slope of West Hill, Foxton.

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



Location plan: Southern limit of Foxton village with the survey areas shown.

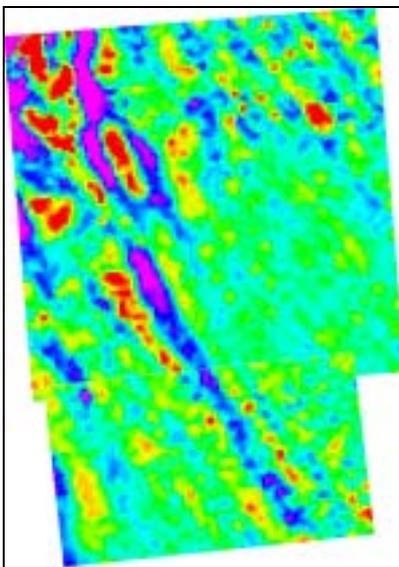


On the ground location points – *There were no good reference points within 200 m. Instead two base points were used. These were at the top of the eastern side of the ditch that lies to the west of the survey area, one (point A) at the apex of a bend in the ditch (10 m from the N end of a line of shrubs on the opposite bank) and the other (point B) 6 m from the S end of the shrubs. SW corner (y): 47.10 m from point A and 29.02 m from point B; NW corner (x) 41.10 m from point A and 56.97 m from point B*

Purpose of survey: To use magnetometry to survey an area in which aerial photographs showed interesting crop marks and to compare the results with those previously obtained from a resistivity survey.

The baseline for the 2004 survey did not exactly coincide with that for the 2007 surveys. However, the superimposition of results is accurate to within the limits of tape measurements and subsequent processing, because two original survey reference pegs were rediscovered after the 2007 surveys were completed.

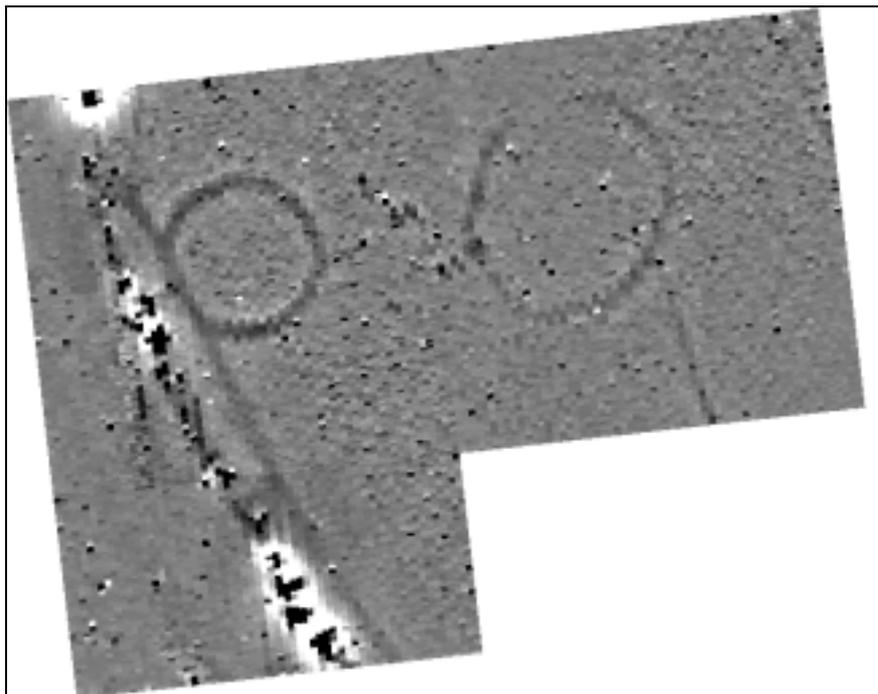
Results:



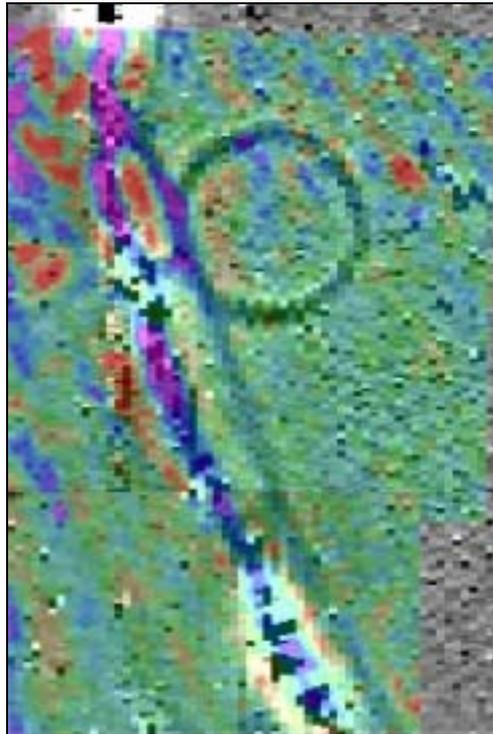
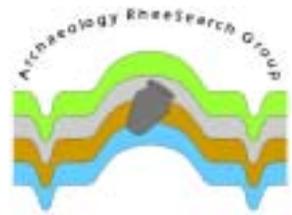
Previous (2004) resistivity 60 m x 60 m

Extension (2007) resistivity 30 m x 50 m

(purple blue low, red high)



Magnetometry
60 m x 60 m
(black +4 nT,
white -4 nT)



Superimposition of resistivity and magnetometry results
(rotated 6° E for ease of presentation).

Resistivity

The combined resistivity measurements show the low resistance line of a ditch with an interruption immediately to the south of a high resistance island feature. The ditch line is bordered by a higher resistance strip on its western (lower) side. An area of high resistance is present to the west of the island feature with an additional scatter to the east. Some striping attributable to cultivation lines runs NW-SE across the image. A faint line of lower resistance runs a few metres to the east of the ditch line at a slight angle to the cultivation line.

Magnetometry

Magnetometry results show a circular feature about 22 m in diameter with a flattening on the SW side where it is intersected by a curvilinear feature of similar signal strength. The curvilinear feature bends to the W at its northern end and to the E at the southern limit of the survey area. A stronger signal was detected further to the W, with an inflection adjacent to the circular feature and interrupted by particularly strong responses at the northern and southern edges of the survey area, and at its closest approach to the circular feature. An ovoid feature approximately 34 m x 28 m was detected to the east of the circular feature. The northern edge of the ovoid was incomplete. A linear feature runs from close to the SE edge of the ovoid towards the SSE. Two smaller features are apparent; a small group of responses immediately to the E of the circular feature and a linear feature to the S and W of the strongest 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 shows that the strongest magnetic response is coincident with the low resistivity signals that correspond with the crop mark of the ditch line. The particularly strong magnetic response adjacent to the circular feature corresponds with an interruption in the low resistivity line. The curvilinear magnetic response line to the east of the main ditch line corresponds exactly with the low resistance line which, on the magnetic responses, appears to join the main ditch line leaving an island area of higher resistivity just south of the junction.

Both of the smaller features noted in the magnetometry results are close to areas of higher resistivity, but the higher resistance strip that follows the strong response line on the western side elicited no magnetic response.

The circular feature detected by magnetometry was not detected by resistivity but there is an area of high resistance inside this feature that appears to respect its western side.



Survey area showing crop marks.



Discussion:

It is documented that the main ditch detected in these surveys was in use 700 years ago*. It was probably dug in the Anglo Saxon period as a boundary barrier to close the gap between the mere at Fowlmere and the River Cam, completing the barrier started with the Heydon Ditch. In the 1960s it was filled in but its course is clearly defined on many aerial photographs of the field, and was even discernible as a variation in the lie of the stubble on the day of the survey.



A circular ring ditch is a standard feature of barrows in this area, so it is likely that the circular structure represents the remains of a barrow. The eastern structure detected is slightly unusual in that it is neither circular, nor complete, although the latter may be due to damage. A previous survey about 150 m to the north of the site revealed a barrow with two concentric ring ditches. The different forms of these three features suggests that they may be from different periods. The non-circular feature is in a good position to overlook any approach to the stream from the west, so associating it with burial practices may be misleading without further evidence.

The juxtaposition of the stream line and the circular ring ditch could indicate that during the construction of the stream an unsuccessful attempt was made to use the barrow ditch as part of the stream course. The curvilinear feature could be viewed as an earlier stream course, supporting this hypothesis.

Alternatively, as suggested in our earlier report on the resistivity survey, this juxtaposition may represent a mill site, with an overflow channel utilising the barrow ditch. In this case the particularly strong magnetic signals at this point may indicate that ferrous material used in a mill structure remains in situ.

The strong magnetic signals in the stream line probably represent deposits of discarded ferrous material, either parts of agricultural machinery or parts of an aircraft which crashed in the field in 1944. It could be pure chance that one group of these strong signals lies immediately adjacent to the circular feature.

The higher resistance curve respecting the circular feature was particularly intriguing, and might reflect a construction originally covered with stone which slipped to the lower, western side as the mound decayed.

Raw data are available as separate appendices.
Magnetometry readings: 4/m, 1 m separation.
Resistivity readings: 1 m interval, 1 m separation.

** Manor court rolls translated by Roland Parker refer specifically to the stream in Foxton in 1318. Assuming no massive landscape adjustment, the survey site encompasses the only route by which the village stream could have received its water supply.*