

Ancient Monuments Laboratory
Report 43/93

WARDY HILL, CAMBRIDGESHIRE
REPORT ON GEOPHYSICAL SURVEY, 1993

Mark Cole

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Summary

Geophysical survey was undertaken at Wardy Hill, Cambridgeshire in response to a request from the Cambridge Archaeological Unit. Recent FMP excavations at the Coveney ringwork suggest that this defended enclosure is only part of a larger complex extending down from nearby Wardy Hill. Cropmarks on the hill appear to relate to the excavated outworks of the Coveney ringwork. The aim of this survey was to investigate the Wardy Hill field in an attempt to locate any archaeological features that may be associated with the ringwork. Whilst resistivity survey was ineffective, magnetometer survey successfully revealed a pattern of linear features, probably enclosures. Although there is some common alignment with the nearby 'Short Causeway', the relationship between these features and the ringwork remains unresolved.

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Introduction.

Geophysical survey over cropmarks on Wardy Hill, Cambs (NGR TL 4765 8195), was requested by the Cambridge Archaeological Unit. Recent Fenland Management Project (FMP) excavations at the adjoining Coveney Iron Age ringwork (NGR TL 4780 8203) suggested that the latter may relate to the cropmarks. Previous geophysical survey (by Kate Roberts of the Department of Archaeology, Cambridge University) over a 40m² area in the Wardy Hill field produced promising results and suggested an extended survey might be worthwhile.

The Wardy Hill field remains in pasture, underlain by Kimmeridge Clay, with approximately 0.30m topsoil cover.

Method.

A baseline was set up along the northern boundary of the field and a grid of 30m squares was established (see location plan). Each of these squares was then surveyed using a Geoscan FM36 fluxgate gradiometer. Measurements were taken at 0.25m intervals along north-south traverses 1.0m apart within each grid square. The resulting data is illustrated in this report using both grey-tone and graphical trace plots.

A limited number of squares were also surveyed using a Geoscan RM15 resistance meter (see location plan). The Twin Electrode configuration was employed with a mobile probe spacing of 0.5m and a reading interval of 1.0m. The resulting data is illustrated using a grey-tone plot.

Topsoil samples were taken from the centre of each square in order to measure magnetic susceptibility (MS). The samples were measured using a Bartington MS1 meter and a MS2B sensor.

Results.

Recent magnetic disturbance, which can be discounted, includes that generated by modern ferrous fencing along the northern edge of the field and in the south-eastern corner; a WW2 bunker in square 11, and a telegraph pole in square 12. There is also a ferrous disturbance of unknown origin in square 8.

Of archaeological significance, however, are several very weak (1-2 nT) linear anomalies in the eastern corner of the field. There appear to be two groups of these, defining parts of enclosures, separated by a 30m wide strip of undisturbed ground running diagonally north-west → south-east. Of interest is the fact that the principle axes of this latter area broadly

share those of the "Short Causeway" (see location plan) which connects the villages of Wardy Hill and Coveney.

The topsoil samples taken from the survey area all produced low MS readings ($< 26 \text{ SI} \times 10^{-8} \text{ Kg}^{-1}$). Whilst the magnetometer has responded to major ditch features, despite these low MS values, it seems unlikely that it would necessarily have located other features in this area, particularly if these are slight.

Disappointingly, the resistivity survey has not detected anything satisfactorily distinguishable from a general background noise. This is most probably due to a lack of moisture contrast between any buried features and the surrounding soil, or an excessive depth of burial.

Conclusion.

The magnetometer survey has clearly demonstrated the presence of parts of one or more enclosure systems at the eastern extremity of the Wardy Hill field. The magnetic response was very weak, however, and there is little direct correlation with the cropmark evidence, or of evidence for other features. There is a potentially significant alignment of the enclosures with the "Short Causeway".

The location did not prove itself suitable to resistivity survey on this occasion.

Surveyed by: P Cottrell
M Cole

Dates: 17-19 May 1993

Reported by: M Cole

Date: 29 June 1993

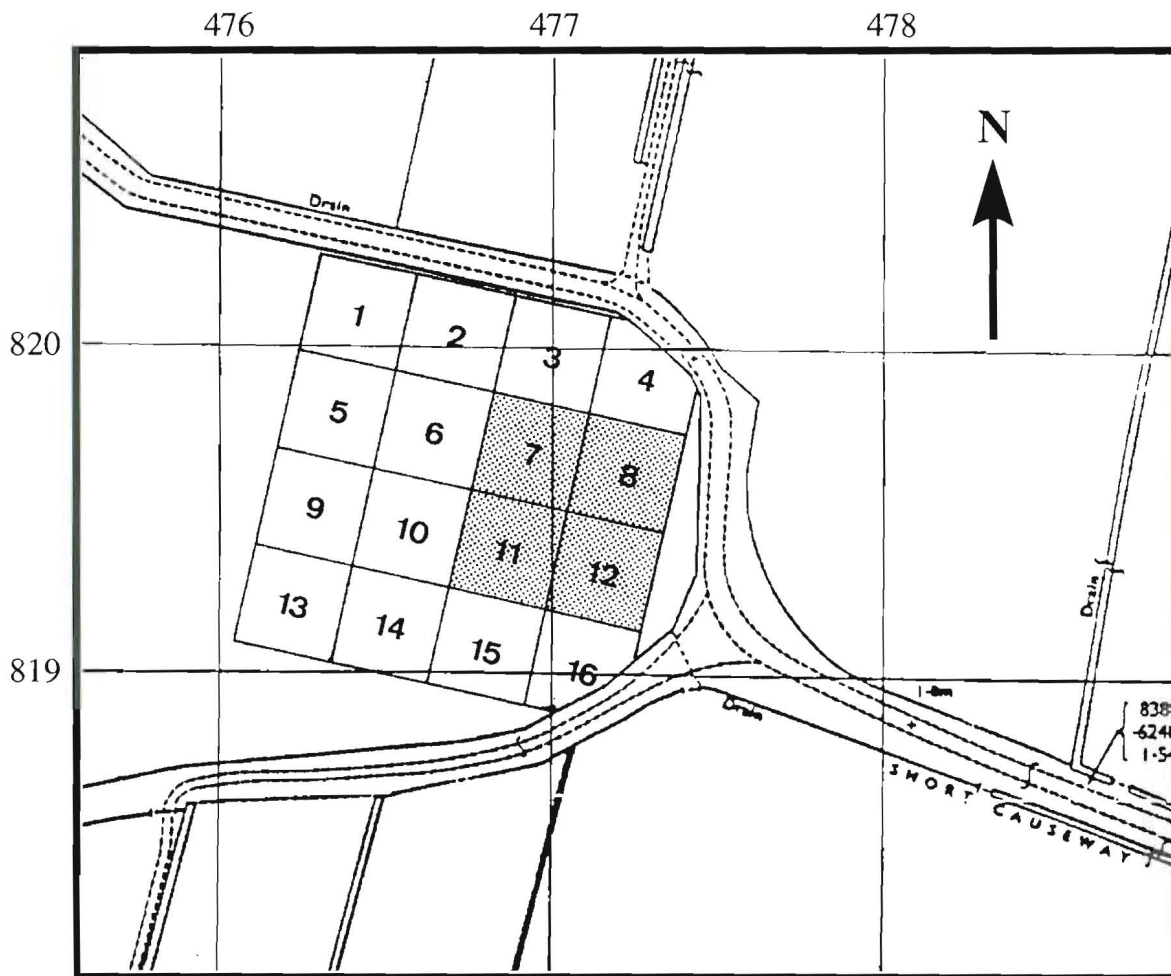
Archaeometry Branch
Ancient Monuments Laboratory
Science and Conservation Services, RPS.


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Geophysical Survey May 1993.

Location Plan of Survey.

TL 4781-2.



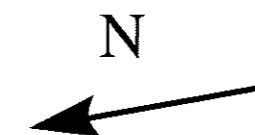
 Resistivity Coverage

Scale 1:2500

0  90m

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Geophysical Survey May 1993.

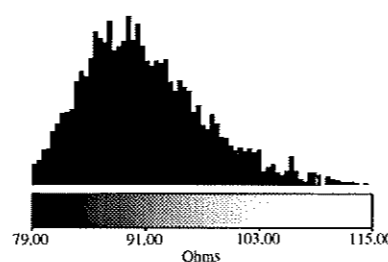
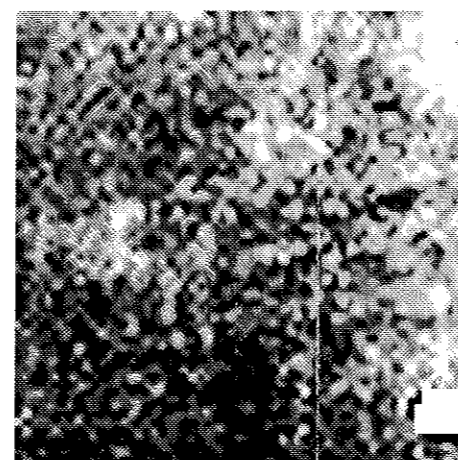
PLAN A.



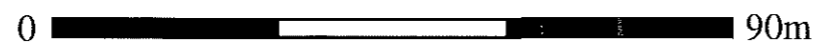
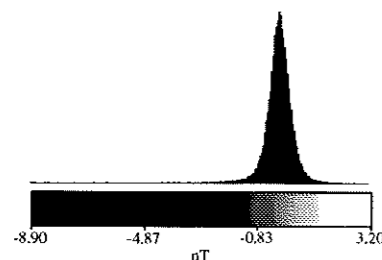
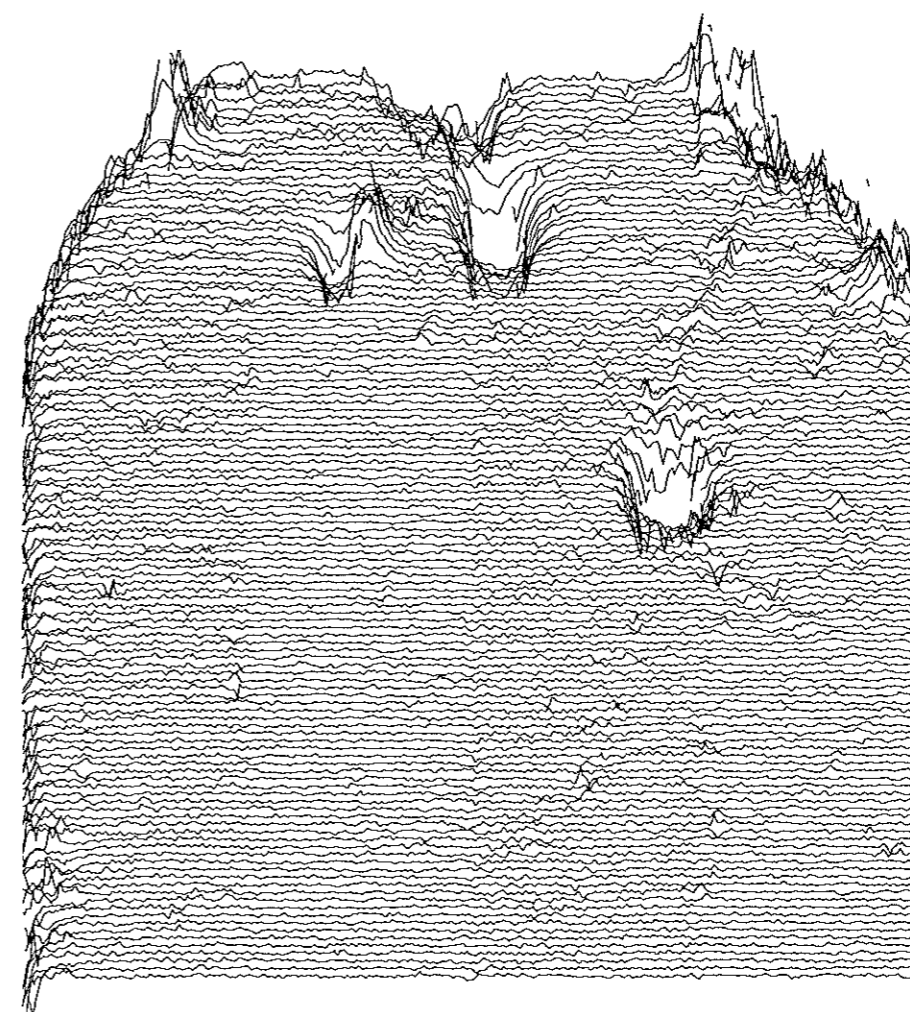
1. Grey-tone of raw magnetometer data.



2. Grey-tone of raw resistivity data.



3. Traceplot of smoothed magnetometer data.



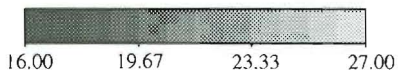
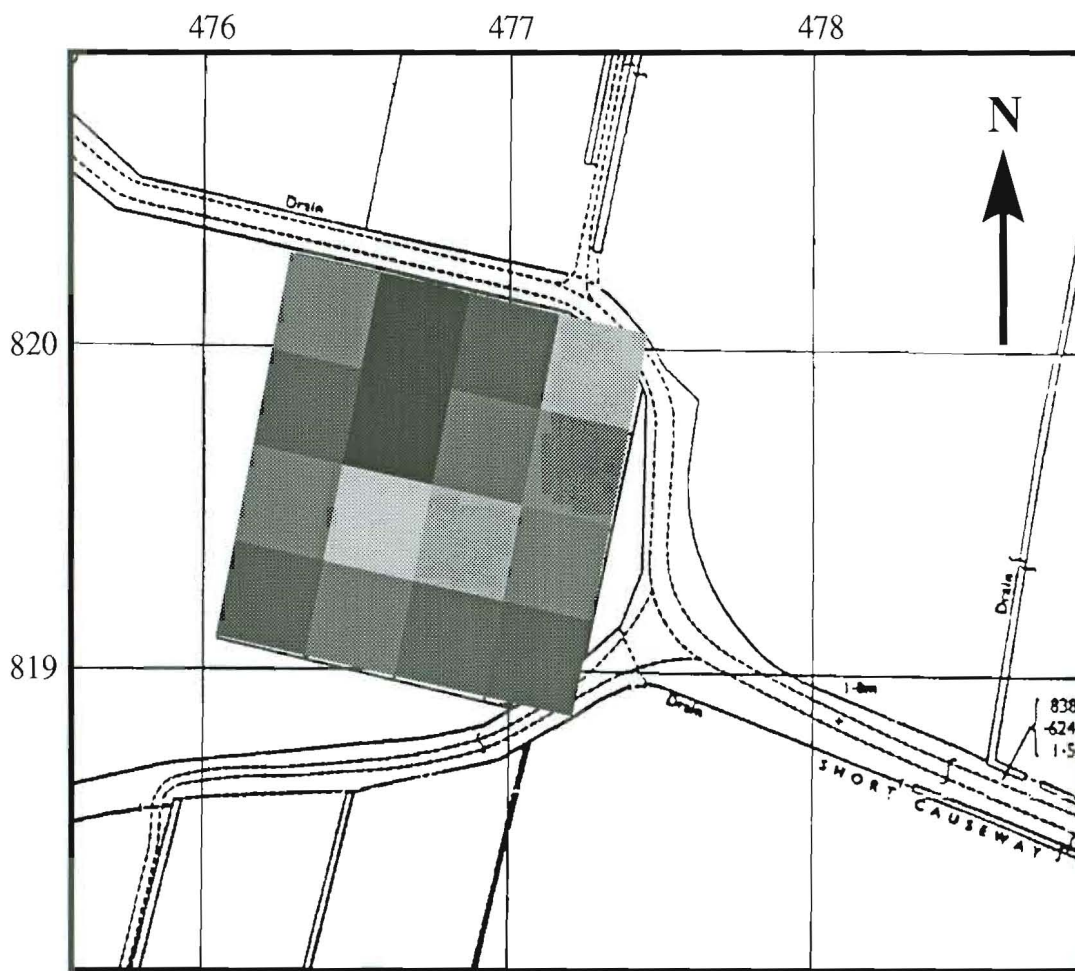
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PLAN B.

Magnetic Susceptibility Survey.



$\text{SI} \times 10^{-8} \text{ Kg}^{-1}$

Scale 1:2500

