

# ANCIENT MONUMENTS LABORATORY REPORT

**SERIES/No**

GEOPHYSICS 21/84

**AUTHOR**

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**TITLE**

WETWANG, N. HUMBERSIDE

ANCIENT MONUMENTS LABORATORY

MAGNETOMETER SURVEY AT WETWANG, N. HUMBERSIDE, 1984

Survey no. G 21/84

Dates of fieldwork: 4-6 Sept 1984

NG: SE 940600

Plans enclosed: 1. Site plan showing location of survey grid  
2. Magnetometer plot

This survey was carried out following the recent discoveries of Iron Age chariot burials in the Garton Slack gravel quarry. The iron wheel rims of the chariots should be readily detectable by magnetometer, and it was hoped the survey would indicate whether any more such burials might be present in the area immediately ahead of the quarry face.

The area surveyed lies across the width of the quarry, and at its E side includes a strip of ground from which topsoil had already been stripped exposing a number of pits and the ditch of a square Iron Age barrow. The 30m site grid was measured to the field boundaries as shown on plan 1, and marked by four pegs left in place as shown on plan 2. Traverses were recorded at 1m intervals using a fluxgate gradiometer to give the plot reproduced as plan 2.

Earlier work in the same valley some 500m to the E has shown that there is unlikely to be a detectable response from the barrow ditches themselves, (AM Lab report G 19/75), and the present work confirms this. Fill from the barrow ditch exposed at the quarry edge in square 21 gave a low magnetic susceptibility reading ( $11 \times 10^{-8}$  SI units/kg), and in field 0079 where aerial photographs appear to show at least three burials which are probably associated with barrows no ditch-like magnetic anomalies were detected. Samples of topsoil from the site gave magnetic susceptibility readings of 31 and 39 ( $\times 10^{-8}$ ) which is sufficiently high for a response to be expected from any substantial features which have a fill predominately of earth rather than chalk. No such features appear to be present, however, except for the anomalies outlined in square 2 where readings of up to 10nT were obtained from hollows in the exposed surface of the chalk. The slight bank formed by the edge of the scraped area is also visible as a discontinuity in the plot in squares 19 and 21. (Traverses falling on the bank were not recorded in squares 5 and 8.)

Almost all the remaining disturbances visible in the plot are likely to be caused by iron, but it is difficult to assess whether any are archaeologically significant. There is conspicuous interference from the fence and perhaps a pipe at the W side of field 2700, as well as from the line of the old railway and from the mechanical excavator which was standing near square 21. Elsewhere there are many sharp spikes caused by scattered pieces of iron, but none appear to conform to the pattern to be expected from a chariot burial. A pair of substantial wheel rims buried perhaps 1m below the surface should produce a broad anomaly with a simple profile, as was demonstrated in a recent magnetometer survey of nearby square barrows at Garton and Slingsby carried out by A. Pacitto. The results were sent to the A M Laboratory for processing (see A M Lab report G 30/84), and gave plots which showed a consistent pattern of anomalies from the three barrows. The anomalies were some 4-5m in overall width and had distinct positive and negative peaks with a maximum amplitude in the range 160-180nT. At the scale of the present plot such features would be 8-10mm in width and 4 or more cm high (although the amplitude might be less because this survey was done with a  $\frac{1}{2}$ m rather than a 1m fluxgate magnetometer).

The anomaly marked at B on the chart comes nearest to fitting these criteria, but it lies near to the road and to an area of strong interference at A and so might well be spurious. A rather arbitrary selection of other anomalies has been outlined on the chart as possible candidates (C-H), but these (and others not indicated) all appear too weak or too narrowly localized to be significant. Several of these features were tested with a metal detector following the magnetometer survey. This would not detect iron at depth, but at C and F it did show the presence of superficial pieces of iron which might account for those anomalies.

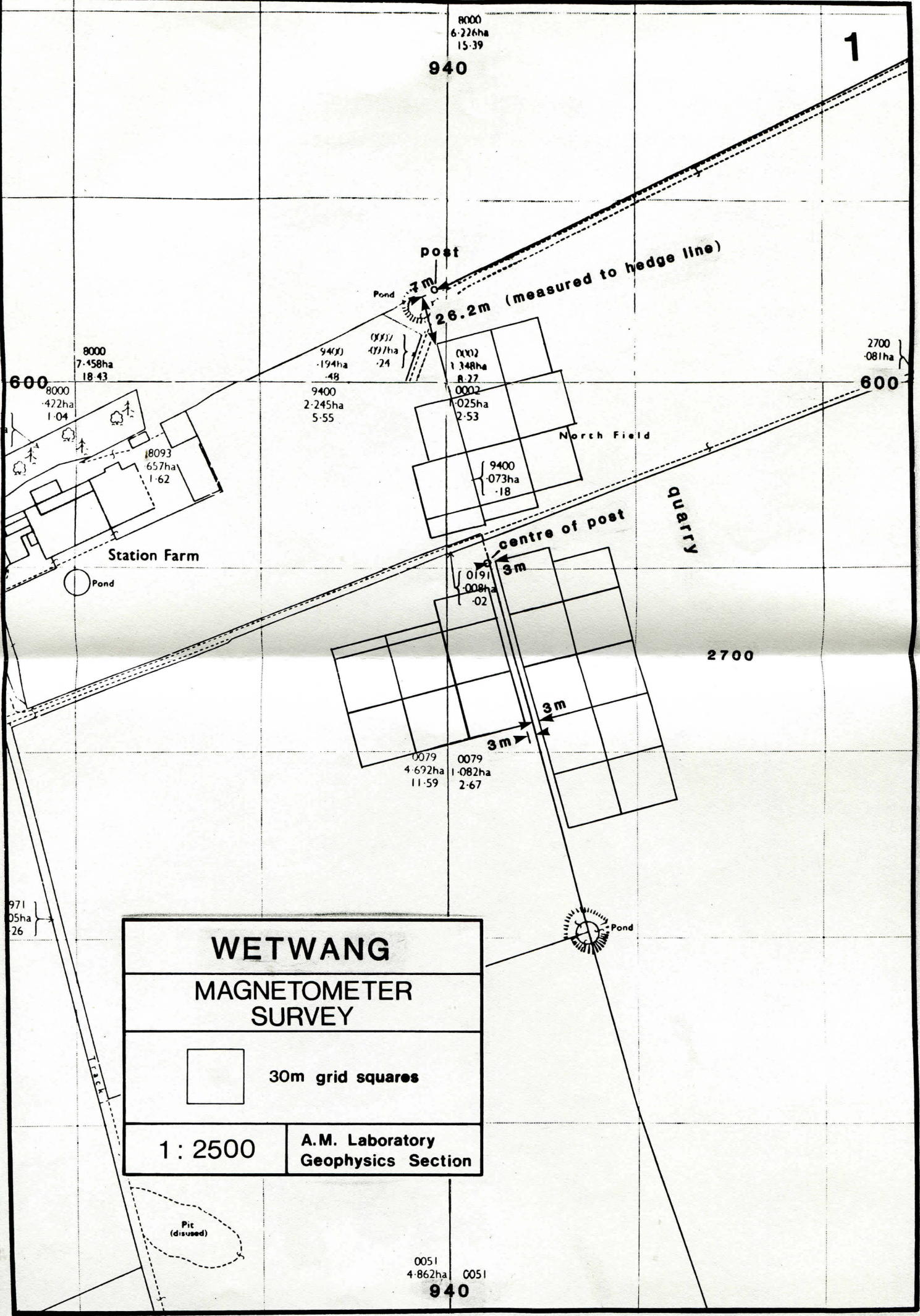
#### CONCLUSIONS

The survey findings do not provide any clear indications that additional chariot burials are likely to occur, but considerable extraneous iron is present and predictions cannot be made with confidence. The anomalies indicated at B - H (and other spikes visible in the chart) might be worth further investigation if any are found to be centred within barrow ditches once the topsoil is stripped from the remainder of the site.

Surveyed and reported by: A Bartlett

with: F Glover

Date of report: 19 November 1984



940

1

8000  
6.226ha  
15.39

Post

Pond

7m

26.2m (measured to hedge line)

2700  
0.81ha

600

8000  
7.458ha  
18.43

600

8000  
4.72ha  
1.04

9400  
1.94ha  
.48

9400  
4.91ha  
.24

0002  
1.348ha  
R.27

0002  
0.025ha  
2.53

North Field

9400  
0.73ha  
.18

Station Farm

Pond

18093  
65.7ha  
1.62

quarry

centre of post

2700

0191  
0.008ha  
.02

3m

0079  
4.692ha  
11.59

0079  
1.082ha  
2.67

3m

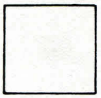
3m

971  
0.5ha  
26

LECK

# WETWANG

## MAGNETOMETER SURVEY



30m grid squares

1:2500

A.M. Laboratory  
Geophysics Section



Pond

Pit  
(disused)

0051  
4.862ha  
0051

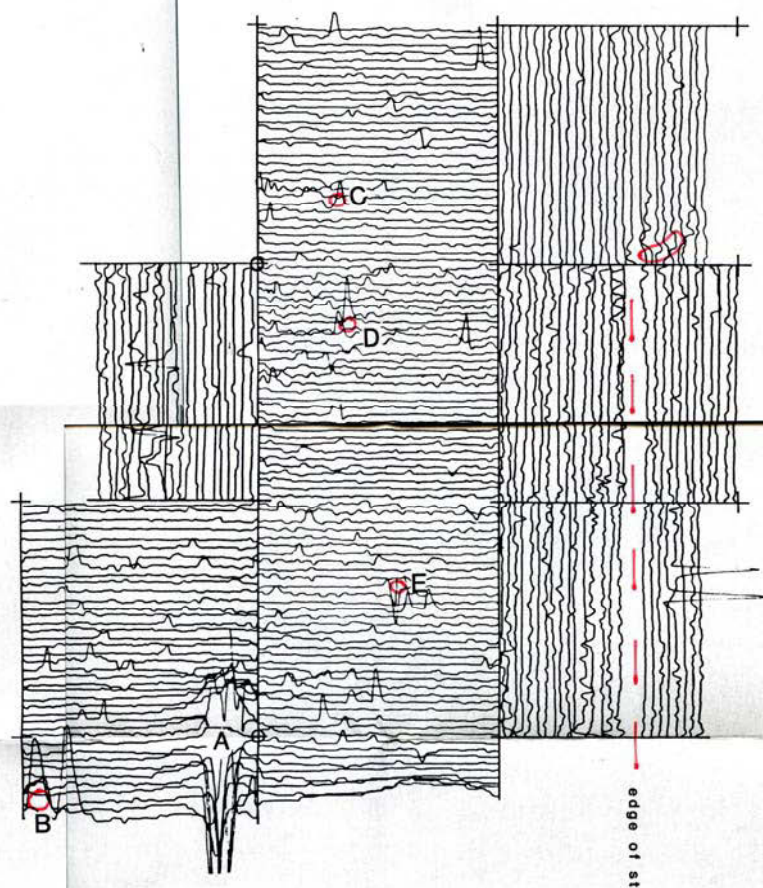
940

# WETWANG: Magnetometer Survey 1984



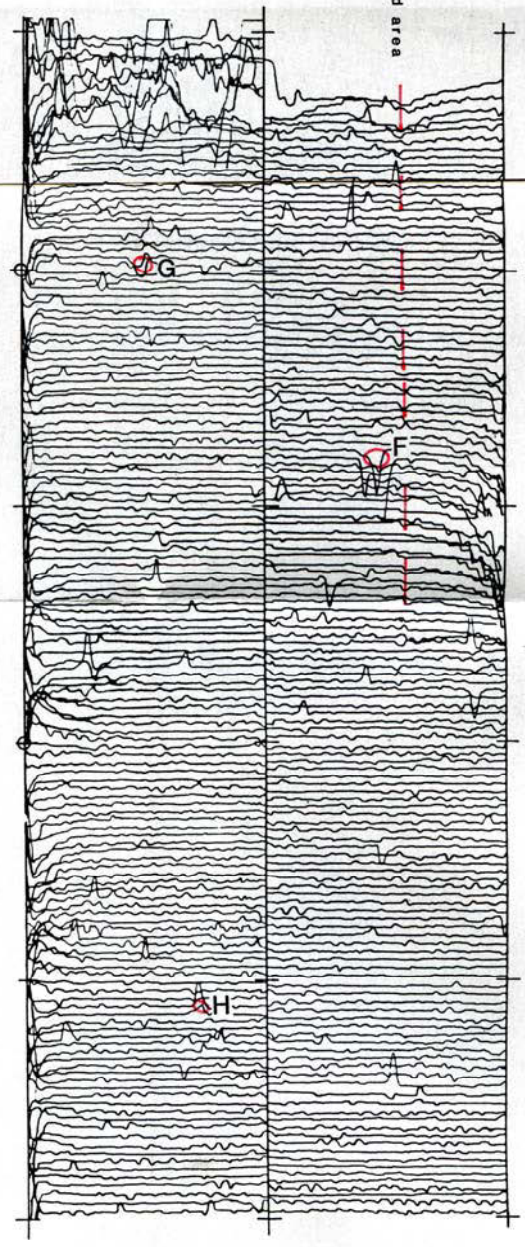
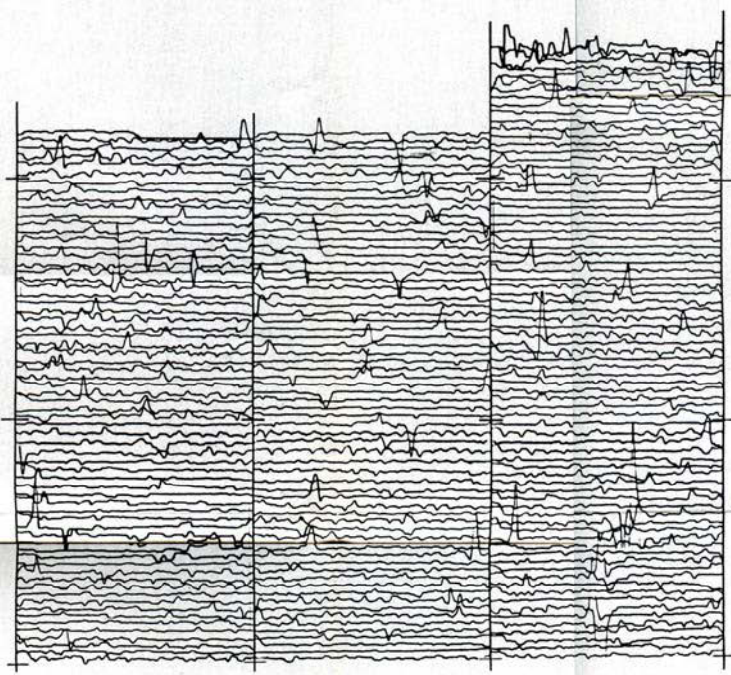
- magnetic anomalies

⊕ - pegs left on site



old railway

edge of stripped area



excavator

key:

