AG

RODMARTON, GLOUCS.

REPORT OF GEOPHYSICAL SURVEY

A geophysical survey was carried out over the area immediately surrounding the Rodmarton long barrow known as Windmill Tump (Gloucs. grid reference ST 93259730). It has been assumed that the barrow extended further than the limits of the present dry-stone walling, and it was hoped that the survey might reveal the original extent of the structure and the character of the lateral ditches, if present.

The area was surveyed with the fluxgate gradiometer, covering as much ground adjacent to the barrow as the usual surveying procedure allows. As shown on the grid a plan of 30m squares was surveyed, giving ample coverage for the purpose in mind. Additionally, five resistivity traverses were made - one across the forecourt area and the remainder extending radially from the wall surrounding the barrow.

The clearest results were obtained from the resistivity survey.

Magnetic survey:

The magnetic traces are recorded on the enclosed chart. The area is 'quiet', and previous experience in similar geological conditions would suggest that substantial ditches would be easily detectable. However, the traces show no very significant or consistent anomalies. This implies that if lateral ditches are present they may be wide and shallow. In this case the only recognisable magnetic contrast would tend to be at the edge of the ditch, and would not show the complete feature clearly. There are slight hints of such a contrast, and although weak and unreliable, the ditches may be partially represented. Such anomalies are marked on the chart, along with other isolated anomalies which may be pits.

The traces across the forecourt area give no clues as to any possible eastward extension of the barrow, although it is possible that 'horns' may extend into the small unsurveyed triangles at each of the two corners.

The large anomaly on the southern edge of square (1) is assumed to be post-prehistoric owing to the local scatter of tile fragments on the plough surface

Resistivity survey:

Readings were taken with both Wenner and Double Dipole configurations at 1m probe spacing.

On the south side of the barrow traverses 3 and 4 show high readings up to 2m from the wall, and this may be taken to be the detectable edge of the barrow. There are then a series of low readings which indicate the presence of a ditch. This seems to be some 5-8m in width, and the lack of exaggeration in the readings suggest that it is shallow.

There is a similar evidence for a ditch on traverse (1) directly adjacent to the wall, and the same ditch may be responsible for the group of low readings between 19-23m on traverse (2).

Traverse (5), across the forecourt area, shows no evidence for 'horns' extending across it. The high readings between 22-36m may well represent an eastward extension of the natural on which the barrow was built. The low readings to either side of this may show the slightly broadened extensions of the lateral ditches detected on the other traverses.

From the evidence of these resistivity traverses the possible lay-out of the lateral ditches is shown on the following site plan.

Summary and conclusion.

The resistivity traverses imply the existence of lateral ditches and that these are broad and shallow is substantiated by the magnetic survey. Constant ploughing and erosion may be responsible for subduing contrasts between ditch and natural, hence giving poor responses to the detecting methods used. Clear-cut ditches in Jurassic limestone are usually quite recognisable as relatively substantial magnetic anomalies. However, barrow ditches had to be different in content from ditches associated with settlement, and the lack of potential magnetic enhancement resulting from such processes as decomposition and burning might help account for the weak anomalies encountered in this case.

The lateral extent of the barrow within the limits of the ditches is difficult to assess. The significant high resistivity readings already referred to may either represent undisturbed barrow material extending beyond the present wall, or the natural itself - suggesting the possible presence of a berm varying from 0-2m in width.

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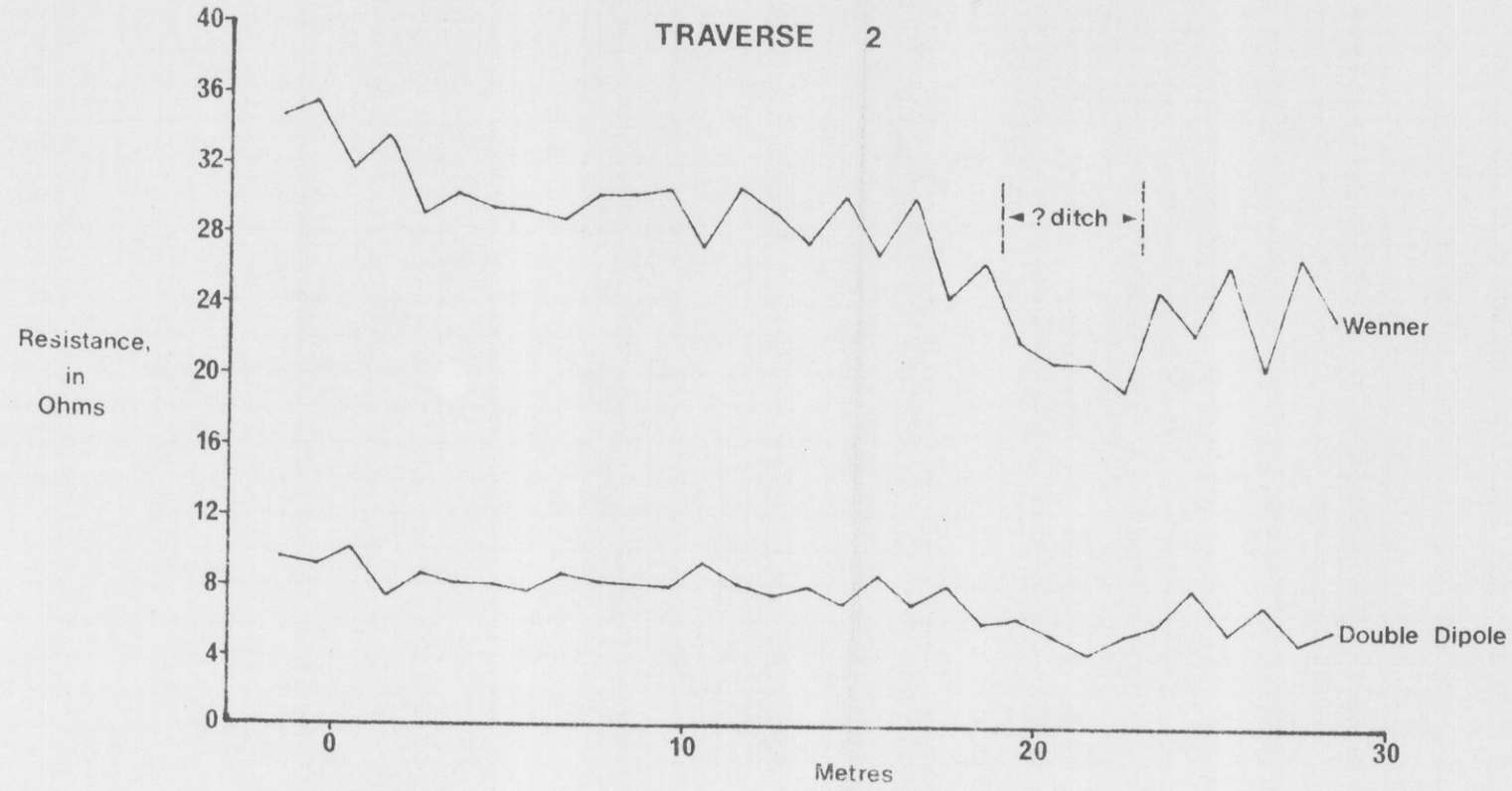
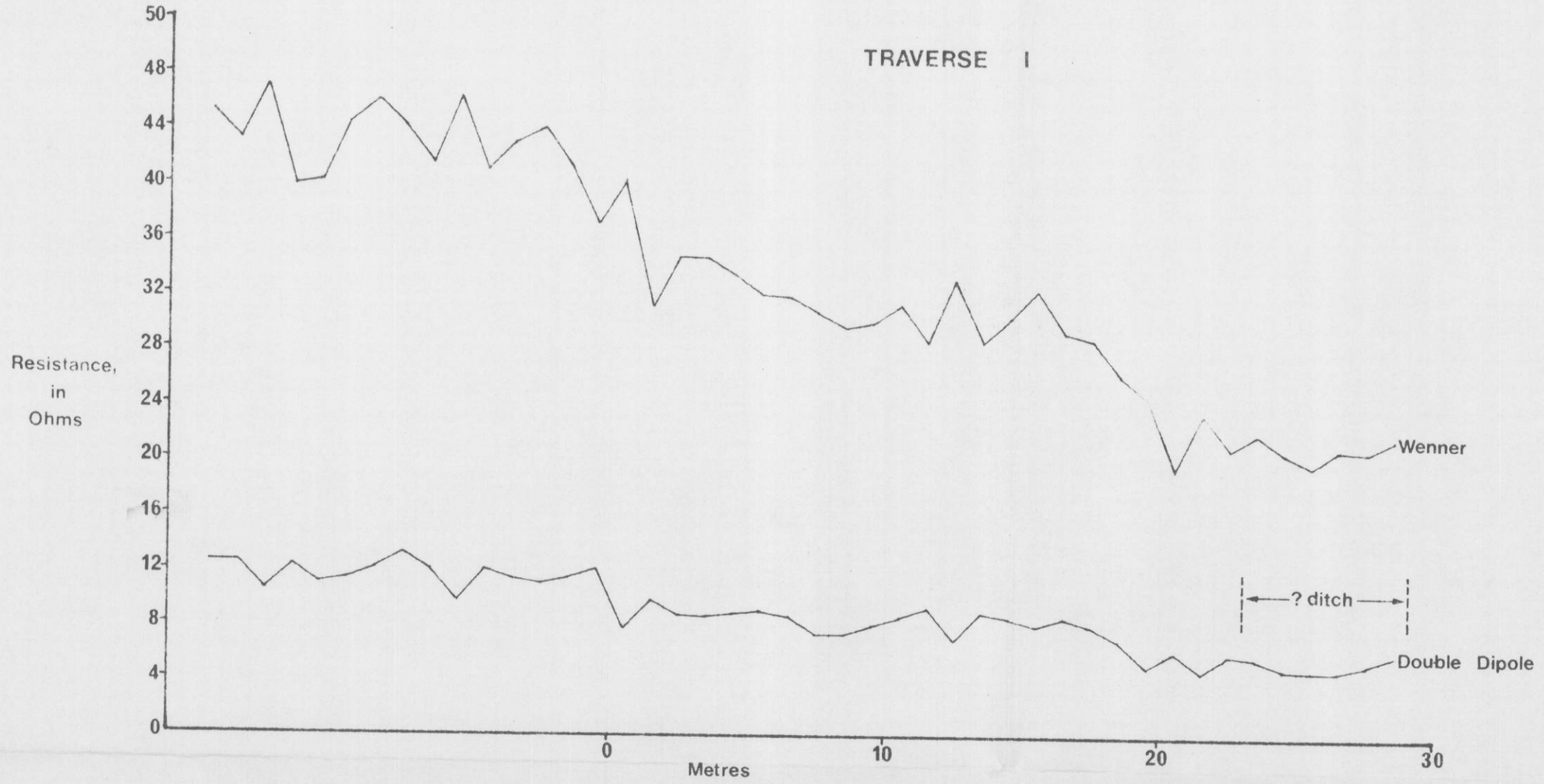
March 1976

RODMARTON





Grid pegs at 0 and 30m.

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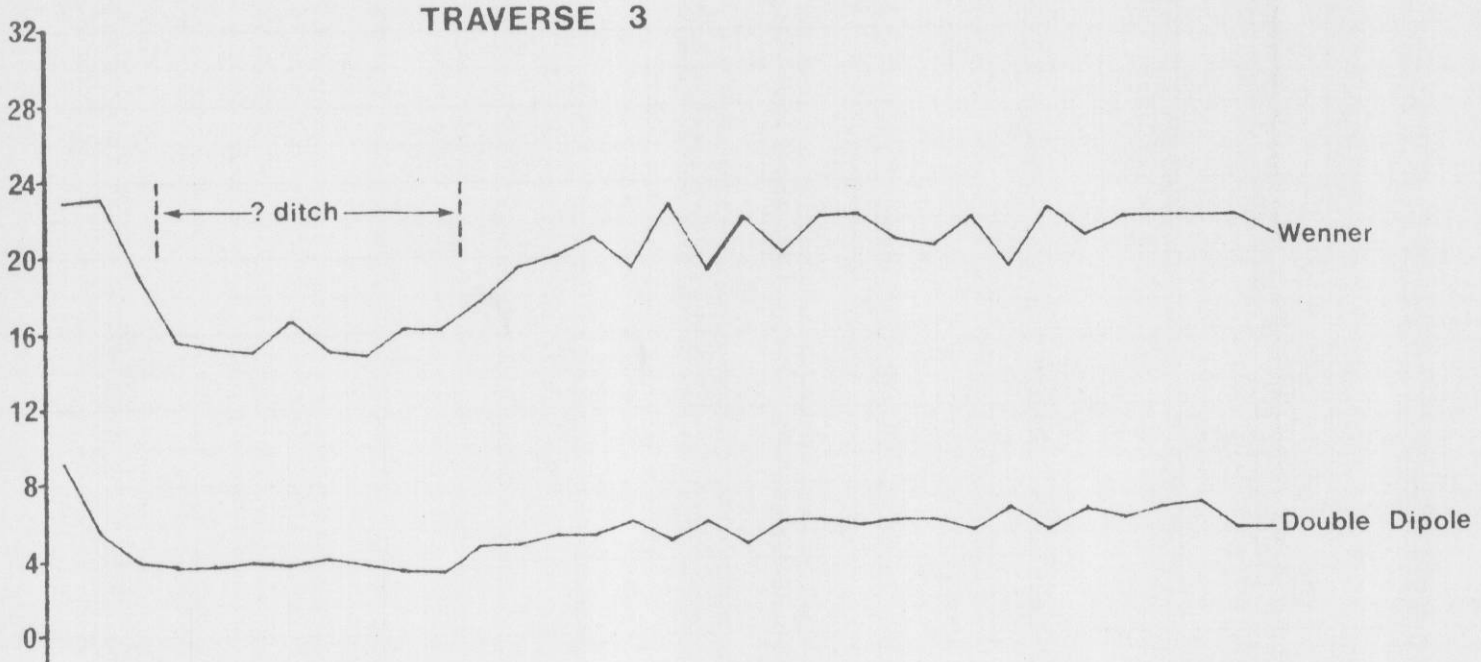
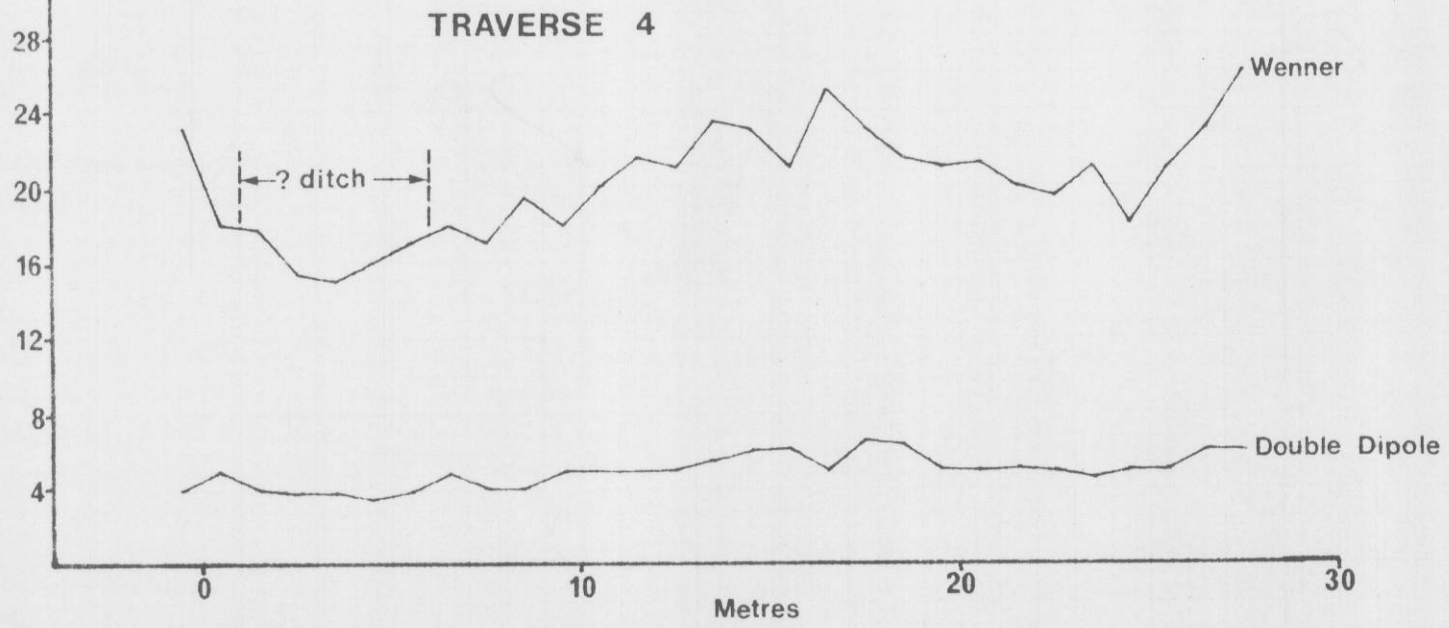
TRAVERSE 3



TRAVERSE 4



Grid pegs at 0 and 30 m.

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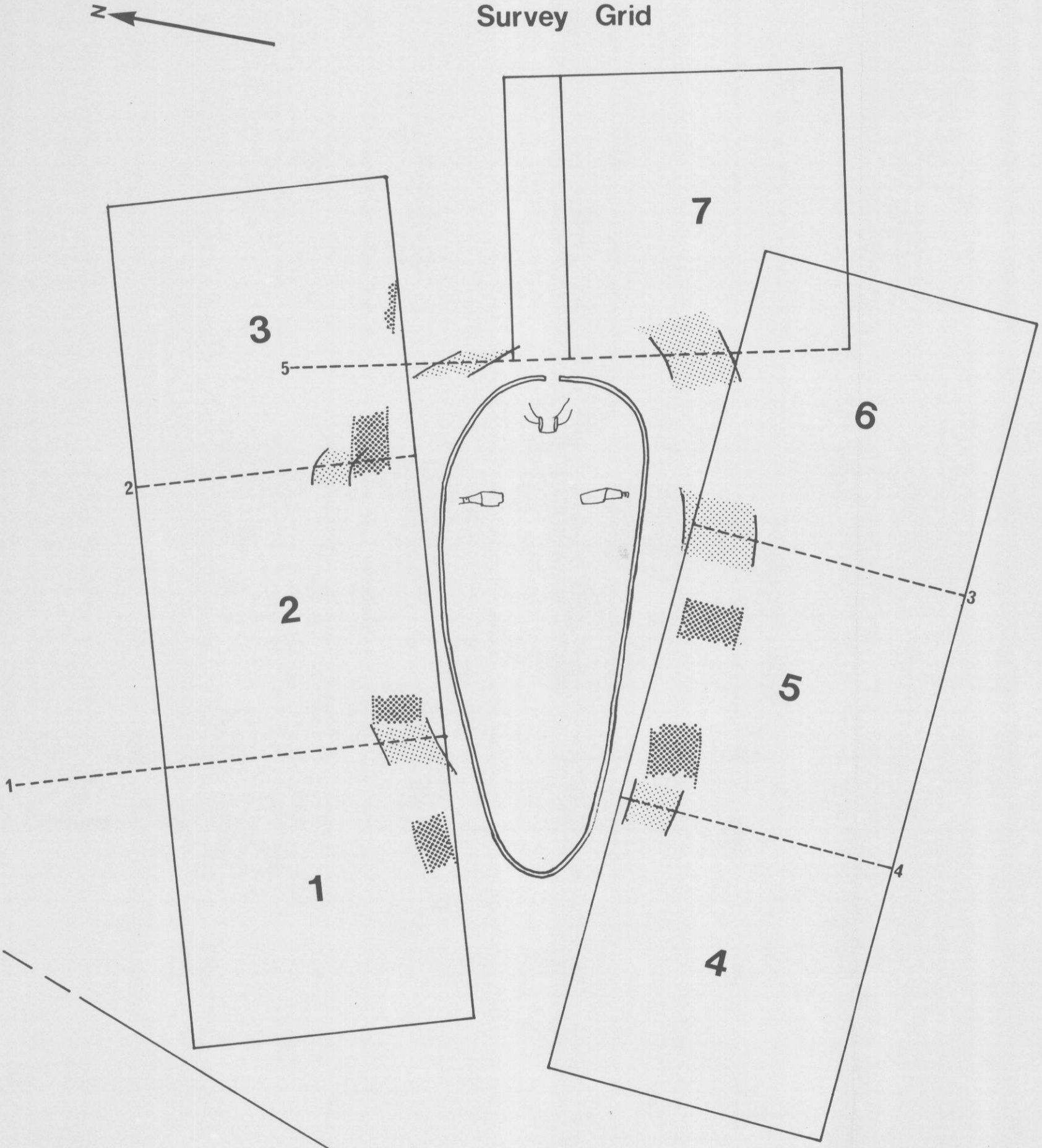
Survey Grid



Positions of ditches inferred from:
magnetic anomalies –
resistivity anomalies –
resistivity traverses – -----

1 : 500

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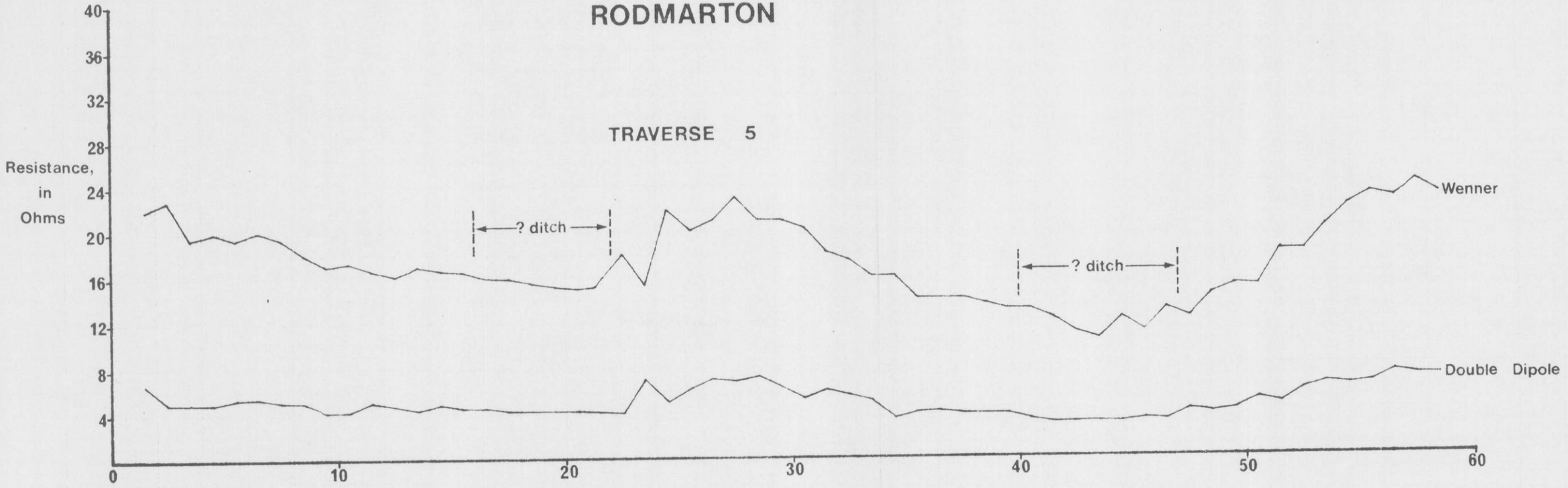
TRAVERSE 5



Grid pegs at 0, 30, and 60m.

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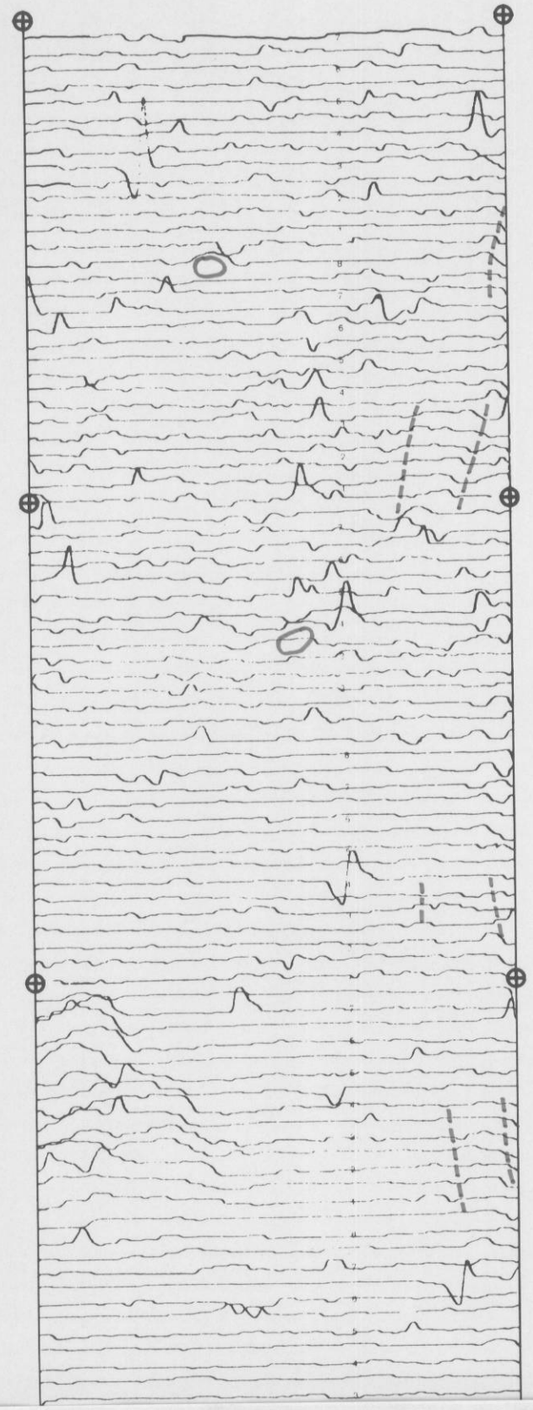

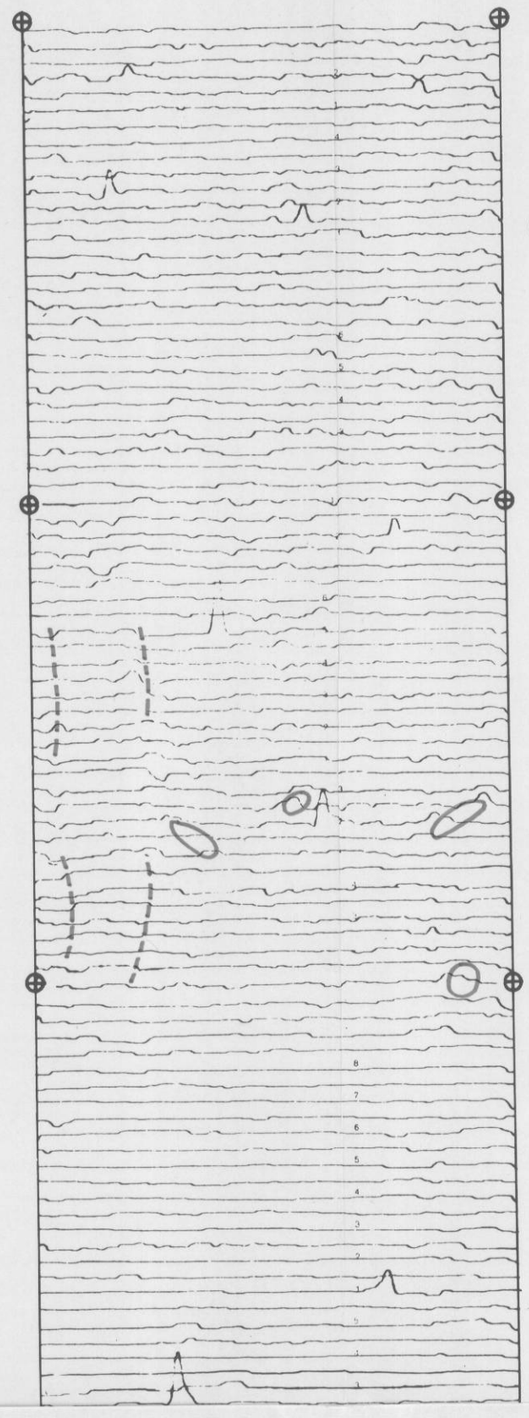

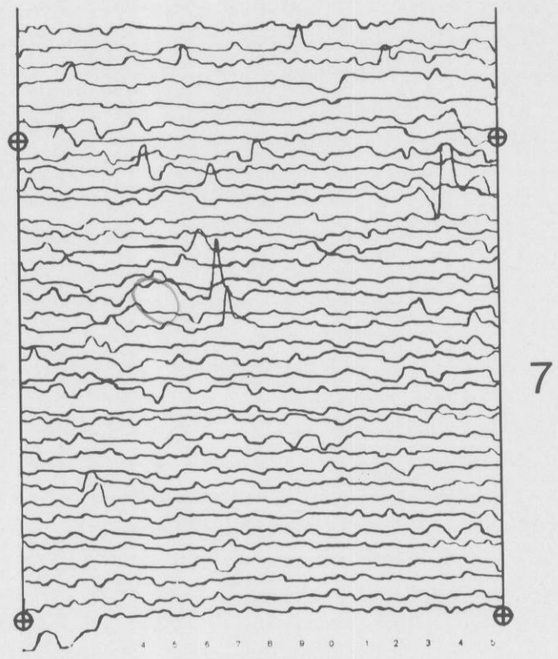

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Magnetometer Survey

1976

⊕ : grid pegs

1 : 400