

## RESISTIVITY SURVEY AT MISSENDEN ABBEY, BUCKS, 1983

### NOTES ON COMPUTER PLOTS

Report no. G 15/83

This survey was carried out in March 1983 by Aylesbury Museum, and the readings sent to the AM Laboratory to be plotted using the Data General Nova 4 mini-computer at the Physics Department of the University of Surrey.

The plan enclosed shows three alternative plots of each of the two areas surveyed. For each area the readings are plotted first as graphs showing the full range of the data (plots 1 & 4), and then as contours starting from an arbitrary base level at or near the mean (plots 2 & 5). The positive anomalies outlined by the contours should include any caused by structural remains. Similar contour plots show the effect of filtering the data (plots 3 & 6). Here localized features which might be archaeologically significant are emphasised at the expense of any general change in the background by subtracting the mean of neighbouring values at a stated radius from each reading in turn.

All plots are at 1:200 scale. The initial readings from both areas were recorded at 1.5m intervals using the twin electrode configuration with 0.5m probe spacing.

#### Area I

Plot 1 shows high readings towards the left which follow the line of the path through this area, and others in the RH corners. The two high readings (A) in the fourth line (from the top) which dominate the contour plot (2) lie at the edges of the path and so are likely to be spurious. An attempt was made to suppress this feature and emphasise others by substituting the mean of neighbouring values for readings greater than 100. The results of this after filtering are shown in plot 3.

The other high readings from the path remain visible at B in plot 3, but a second band of high readings has now appeared at C. This could be archaeologically significant, but it is rather weak and diffuse and does not form part of any clear plan in relation to other features. The high readings at the RH corners could similarly be significant, but the number of readings affected is too few for any confident interpretation. A negative anomaly such as the band of low readings between B and C (visible in plot 1) could indicate a ditch, but the effect is again very weak.

#### Area II

Plot 4 shows a drop in readings from the left to right hand halves of the survey. This could be artificial if the remote probes were moved between sections IIa and IIb of the original survey, but the LH half is relatively more disturbed and the anomalies there appear stronger than would be likely from this cause alone. The single high reading towards the top left is probably spurious and was suppressed in the contour plots.

The approximate extent of the area of high readings can be seen in plot 5. This feature could well represent masonry. If so it might be possible

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to resolve internal detail of the structure through filtering, but the result obtained (plot 6) in this case is not particularly clear. The appearance of the contours would be consistent perhaps with two parallel features, perhaps walls about 6m apart, at D and E, but other interpretations are possible. The other features visible in plot 6 are rather weak except for the high readings at the corners, which could be affected by the adjoining path.

### Conclusions

A detailed archaeological interpretation of a resistivity survey must usually be based on the plan of the features detected as well as the magnitude of the readings. Here the area involved is rather too small to give features extensive enough to be interpreted with much confidence, and additionally the 1.5m reading interval theoretically only allows features some 3m across to be resolved. There is however a considerable disturbance in area II for which one possible explanation would be the presence of buried masonry. The possibility of other minor features (eg perhaps at C in area I) also cannot be excluded.

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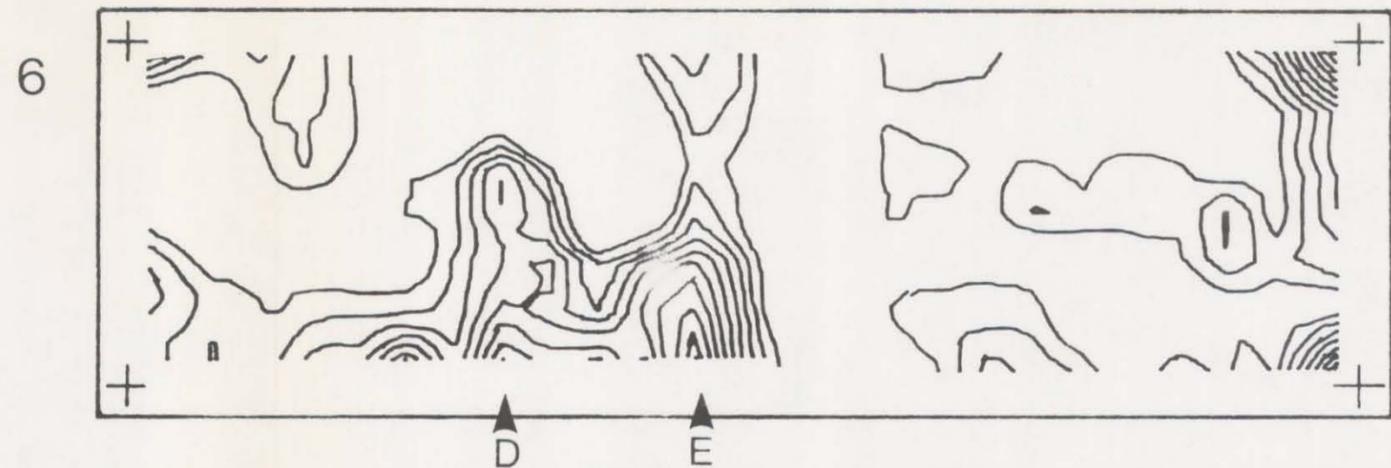
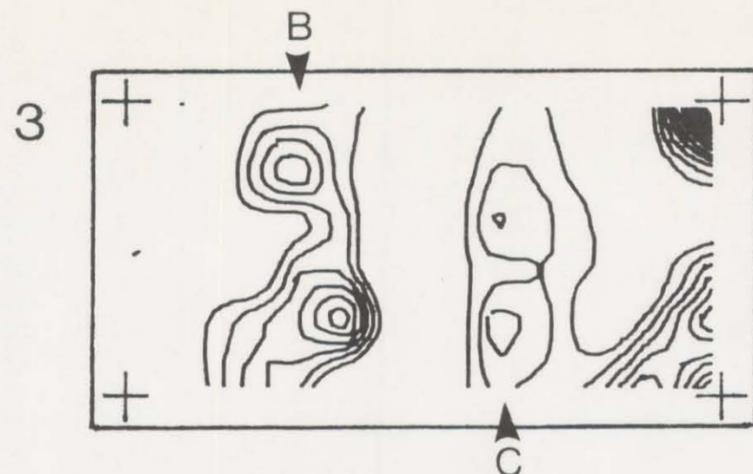
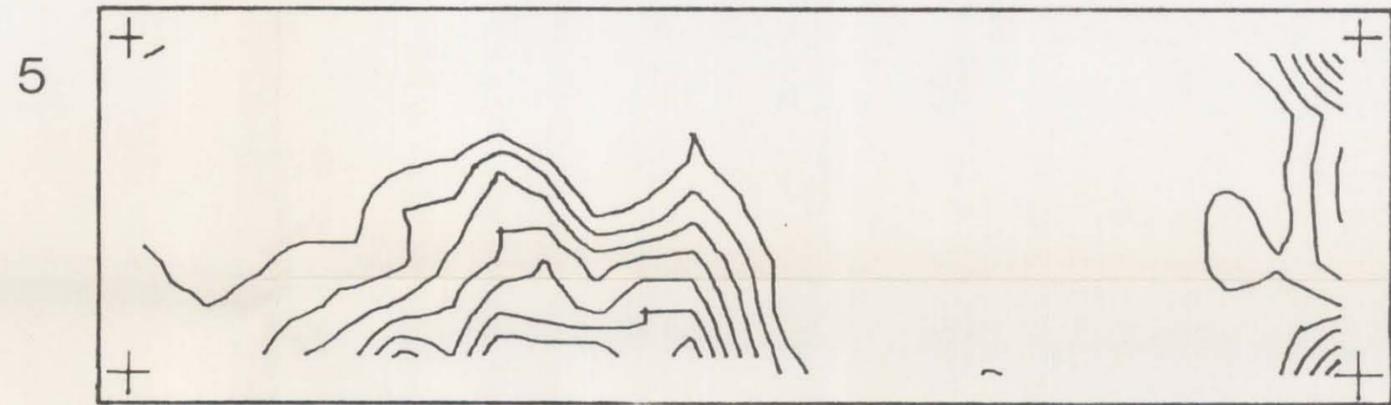
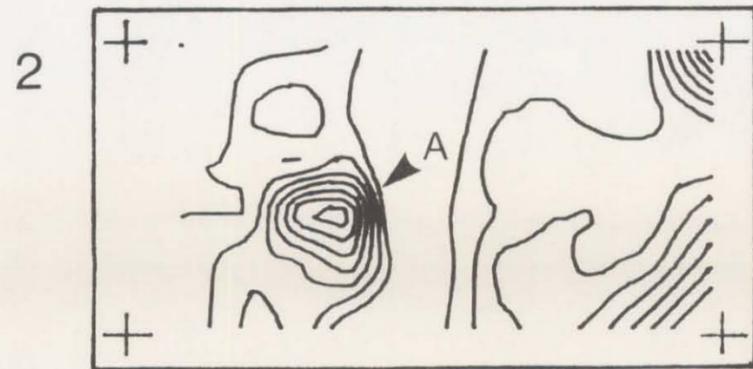
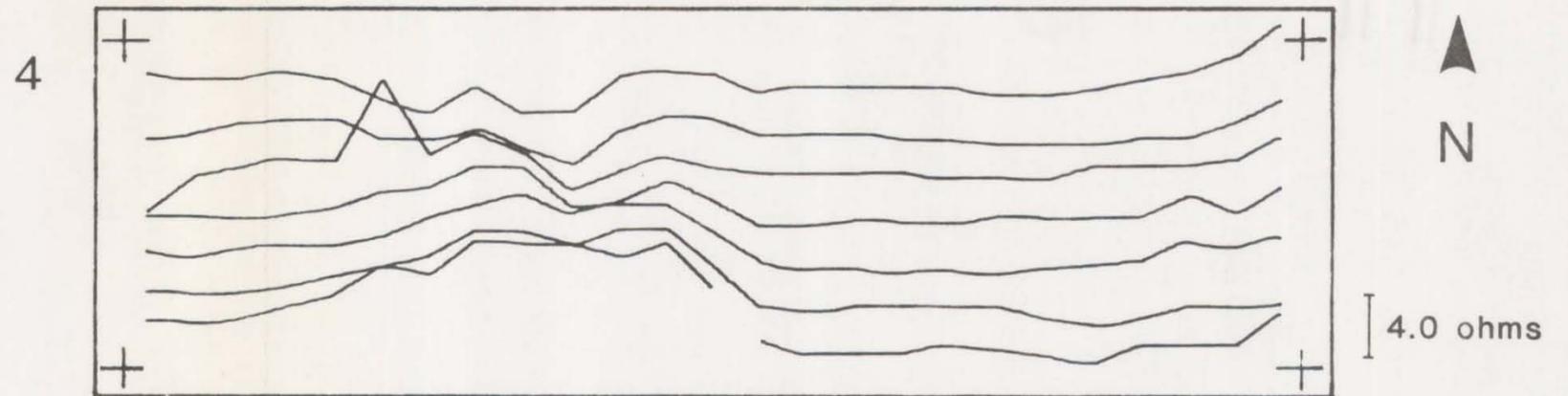
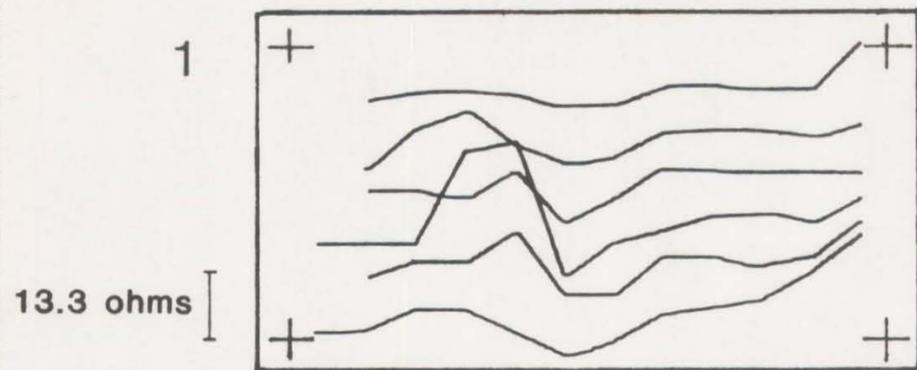
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# MISSENDEN ABBEY RESISTIVITY SURVEY

Area I

Area II



Plots 1,2,4,5: Initial (unfiltered) data

Plots 3 & 6: Filtered data (filter radius 3m)

Contour range: mean to maximum (plots 3,5,6)

mean - 0.5 st. dev. to maximum (plot 2)

Contour interval: 0.5 st. dev.

AM Laboratory 1983

1:200

(Survey data supplied by Aylesbury Museum.)