1993 GEOPHYSICAL SURVEY BY GEOPHYSICAL SURVEYS OF BRADFORD

(The full original report forms part of the archive in Colchester Museum)

The survey occupied four fields, Areas A to D, totalling approximately 13 ha. Due to the large size of the survey each area has been subdivided further as shown in Figure 1.

Baselines were established by staff from Essex County Council and the location of the baseline markers are indicated on Figure 1. The detailed survey grid was set out by Geophysical Surveys of Bradford. The results are displayed as X-Y traces, dot density plots and grey scale images. These display formats are discussed in the Technical Information, at the end of the report. A composite plot showing the complete data set is provided in Volume I together with a simplified interpretation.

2.3 In this section of the report the data for each area are displayed at a scale of 1:500 with an interpretation diagram at the same scale. Letters in parentheses refer to anomalies discussed in this report.
3.1 Ground conditions proved suitable for gradiometry, the area being gently undulating with short pasture.

3.2 The presence of a dismantled railway, pipes, fences, telegraph poles and water troughs have generated areas of magnetic disturbance. However, these cover a relatively small area and have not hindered interpretation of the results.
4.1.1 Area A lies in the north of the survey and covers approximately 3.3 ha. The data from this area are dominated by a discrete curving band of high responses (A) in the east of the area which appears to represent a former stream channel. The strong responses may be due to magnetic gravels or possibly rubbish and rubble which may be archaeologically significant. In the west of the survey area there are weaker curving responses (B), and isolated anomalies, which are also thought to be of a natural origin.

4.1 Area A

4.1.2 In the east of the survey area there are several ditch-type anomalies (C) aligned SW-NE and NW-SE, some of which appear to form enclosures (see Area A3). These anomalies are on a similar alignment to the cropmarks known to exist to the north of the survey area, and shown in Figure 1 of Volume I. It would appear that these anomalies are part of the same complex.

4.1.3 In the south west of the survey area, Area A2, there are three linear responses which are on a different alignment to those discussed above and meet to form an ‘arrowhead’ shape (D). It seems likely that these are relatively modern ditches possibly representing drainage.

4.1.4 Several pit-like anomalies have been located in this area, some of which may be of an archaeological origin. Past excavations immediately to the north of the survey area revealed Grubenhauser. It is possible that the two large pit type anomalies (E) in

the east of the survey, Area A3, are of a similar nature, although a natural origin, such as pockets of magnetic gravels, cannot be ruled out.

4.1.5 Ferrous material within the survey area and along its perimeter have caused areas of disturbance which are clearly visible in the XY traces. In addition, there are numerous isolated ferrous responses across the site which are probably due to modern ferrous material.

4.1.6 The postulated lines of the Roman roads have not been detected in this area.

4.2 Area B

4.2.1 Area B, over 7 ha in size, is situated in the centre of the survey and covers the core of the postulated Roman town, with the Roman road running approximately north-south through the western half of the area.

4.2.2 The majority of the anomalies within this area follow the same alignment as those in Area A, and the known cropmarks, suggesting a further continuation of the complex of ditches and enclosures.

4.2.3 A quiet band of data (5-7m wide) bounded by short lengths of ditch and pit-like responses runs through the western half of the survey in Area B 1 and is believed to be the Roman road (F). A second road (G) appears to lead off the main one and extends into Areas B2 and B3. The main road is believed to extend southwards although it has not been detected by the gradiometer. Several ditches aligned SW-NE lead off the main road, including some that extend eastwards across the site for over 1 OOm.

4.2.4 To the west of the road there are several weak linear anomalies (H) aligned approximately NW-SE which are possibly part of the cropmark complex to the north. Numerous pit-like responses are also apparent in this area. However, a dismantled railway marks the western limit of the survey area and there is a high level of magnetic disturbance associated with it. This is particularly apparent in the XY traces. It is possible that some of the anomalies along the western edge of the survey are due to material associated with the railway.

4.2.5 In the north of Areas B 1, B3 and in Area B4 there are numerous ditch and pit-like responses many of which appear to be archaeological in nature.

4.2.6 The southern half of the survey area is dominated by a band of strong responses approximately 60m wide running SW-NE across the site. It comprises a complex of pit and ditch-type anomalies, which although relatively strong, appear to be archaeological. The northern limit of the band is clearly defined and there are several quieter areas, for example (I), aligned NW-SE within it. It is possible that the strong responses are the

product of fired building material and/or associated activity, while the quieter areas represent streets. The concentration of anomalies is greatest in the west, near the road and gradually decreases eastwards. While the nature and context of these anomalies support an archaeological origin, the possibility of a natural cause, such as a band of magnetic gravels, cannot be ruled out.

4.3 Area C

4.3.1 A pipe running along the eastern limit of the survey has created a band of magnetic disturbance which will have masked any weaker anomalies of archaeological interest.

4.3.2 Several ditch-type anomalies aligned NW-SE and SW-NE have been located in this area and may form part of the same complex found to the north.

4.4 Area D

4.4.1 The data in the eastern half of this area are severely distorted by a buried ferrous pipe and presumed modern dumping.

4.4.2 In the west of the survey there are several responses which may be archaeologically significant although the high level of noise in this area and the obvious magnetic disturbance makes interpretation of these anomalies tentative.

5. Conclusions

5.1 The gradiometer survey has located numerous anomalies of probable archaeological significance, including those likely to be associated with roads and possible buildings.

5.2 Several ditches and pits scattered across the site suggest a continuation of the cropmark complex recorded to the north and north-west of the survey area.

5.3 Although an extensive area has been surveyed, approximately l3ha, the limits of the site have not been determined, suggesting that archaeological activity extends over a greater area than that covered by the gradiometer survey.

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Geophysical Surveys of Bradford

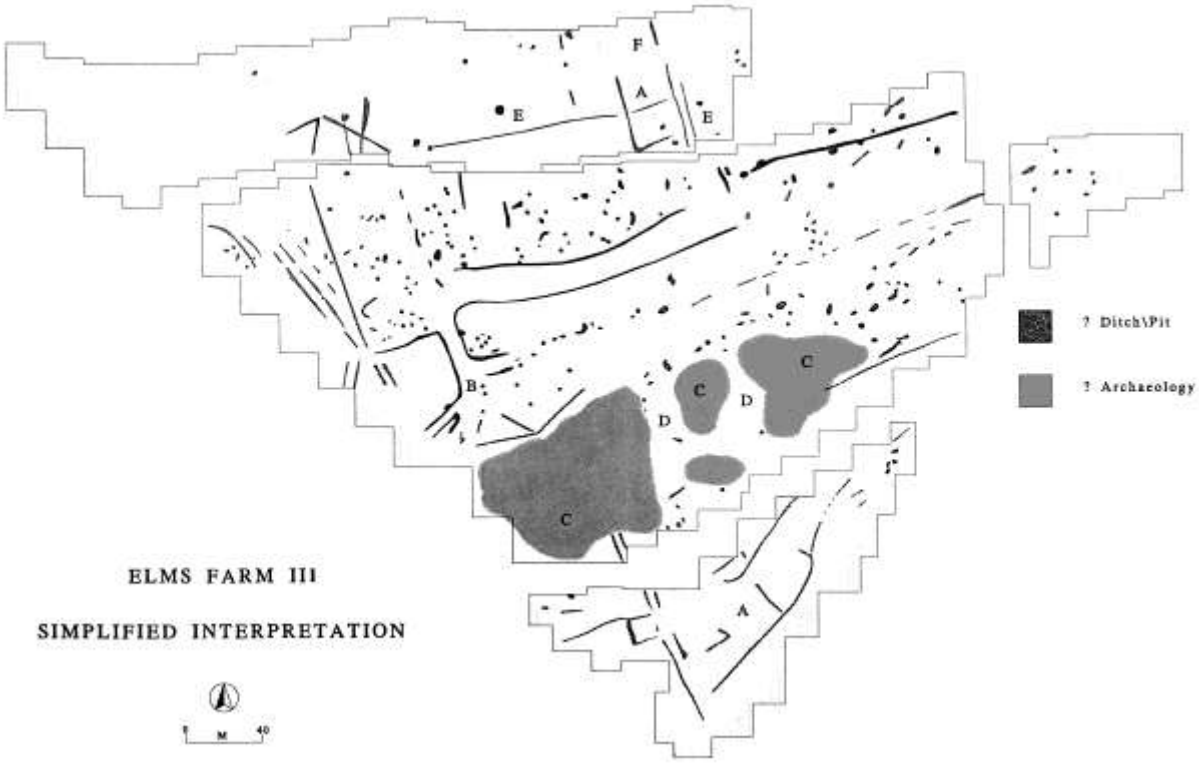

Fig. 1 – Interpretative plan

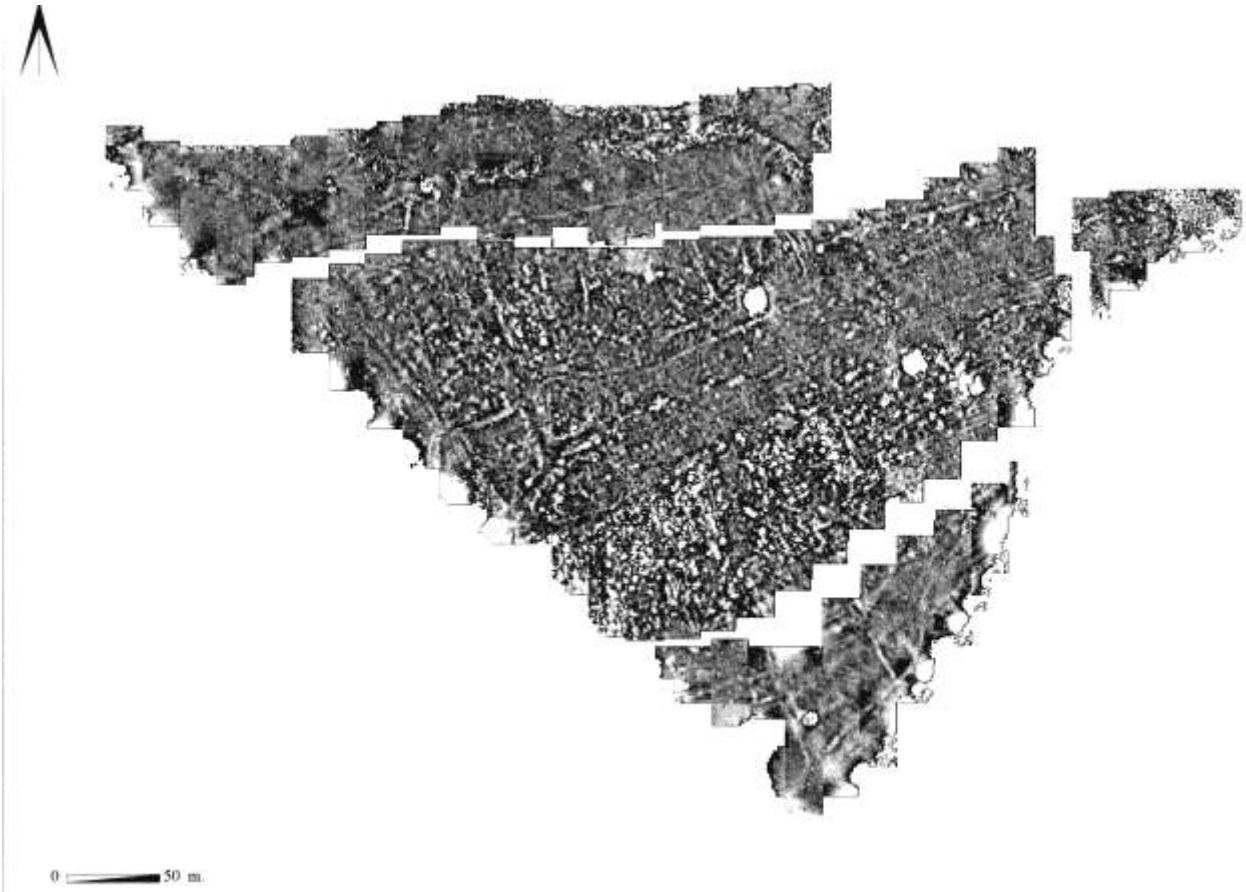

Fig. 2 – Grey-scale plot