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REPORT ON GEOPHYSICAL SURVEY

Doulting Bypass, Somerset

Report Number 92/02

Work Commissioned by:





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SITE SUMMARY SHEET

92 / 02 Doulting Bypass, Somerset

NGR: ST 644427

Location and topography

The survey reported here consists of 10 sample areas along part of a proposed road by-pass for the village of Doulting, Somerset, which is directly west of Shepton Mallet. The suggested route for the by-pass is to the south of the village. The samples are divided between three pasture fields. These are relatively flat, with the exception of Field 3, which slopes downhill to the west. It is thought that the geology is limestone.

Archaeology

The County Field Archaeologist (Mr R A Croft) has identified a number of positions along the proposed route as being of potential archaeological interest. Within the area covered by this report there is evidence for slight earthworks, a trackway to the north of the survey area and a series of interesting field names.

Aim of Survey

It was proposed that the land should be investigated by the magnetic technique, using a series of sample transects/blocks. It was hoped that any anomalies of archaeological interest in the vicinity of the proposed route of the by-pass would be identified.

Summary of Results *

All three of the fields revealed some evidence for possible archaeological activity. The major anomalies are located in the western (Field 3) and southern fields (Field 2). Whilst there are a number of anomalies that clearly indicate ditch-type features, there are some that may be the product of settlement activity. The latter are concentrated in Field 2, and are comparable with anomalies located on similar geology at Shepton Mallet, which proved to be the product of Roman settlement.

* It is essential that this summary is read in conjunction with the detailed results of the survey.

SURVEY RESULTS

92/02 Doulting

1. Survey Arca (Figure 1)

- 1.1 In order to carry out a first stage evaluation of the proposed route using the magnetic technique, it was necessary to implement a sampling scheme. A total of ten samples were undertaken, split between three fields. The distribution of the samples was agreed with R A Croft, and the positions of the areas can be seen in Figure 1.
- 1.2 The survey areas have been tied into the field boundaries by Geophysical Surveys of Bradford, whilst four key points were plotted by Somerset County Council using a theodolite.
- 1.3 For ease of convenience the samples will be discused individually, with reference to the field numbers.

2. Display

- 2.1 The results are displayed in three formats: dot density plot, grey-scale and X-Y trace. These display formats are discussed in the *Technical Information* section, at the end of the text.
- 2.2 Simplified interpretation diagrams are produced for the individual survey areas, whilst interpretations for the individual fields may be seen in Figures 3, 5 and 7, with an overall interpretation in Figure 8.
- 2.3 All data diagrams are reproduced at 1:500. The field summaries are reproduced at 1:1000, with the overall interpretation at 1:2500.

3. General Considerations - Complicating factors

3.1 There were few complicating factors at this site. However, the metal fenceline that divides Fields 1 and 2, and approximately indicated the centreline of the proposed road, produced a ferrous anomaly which restricted survey near to the fence.

4. Results (Interpretation Figure 8)

4.1 Field I (Summary Interpretation Figure 3)

4.1.1 Sample A

There are no definite anomalies of archaeological interest in this sample. The disturbance in the south-east corner of the sample area is due to a few large metal objects in the fenceline.

4.1.2 Sample B

This sample has been extended northwards to cover the highest point in the field. There is no geophysical anomaly associated with this summit. However, there is a response from a slight earthwork that runs approximately north-south through this sample and up to the peak. This response appears to be associated with the present gateway into Field 2, and the earthwork continues into this field.

The anomalies that have been highlighted as possibly archaeological in the interpretation appear to form some sort of enclosure. However, the anomalies are weak, which may mean that they represent pedological variation, or even deep-seated changes. The latter may be geological or due to deeply buried archaeology. It is important to note the height difference between Field I and Field 2, of which the latter is at a significantly lower level.

4.1.3 Sample C

The responses from this sample are similar to those described in Sample B. The anomalies are weak, but still apparently describe archaeological forms.

4.2 Field 2 (Summary Interpretation Figure 5)

4.2.1 Sample D

The results from this sample are dominated by a single linear anomaly. This presumably represents a ditched feature, which may be associated with the other highlighted anomalies.

4.2.2 Sample E

This sample contains a concentration of strong anomalies. It is suspected that these could be the product of archaeological settlement, indicating refuse and /or habitation areas. Alternatively, they could represent a local variation in the geology. Given the fact that similar anomalies were identified in several surveys near Shepton Mallet (e.g. Geophysical Surveys of Bradford Reports 90/94), and they were found to be archaeological (see Leach 1991), it is assumed that the anomalies from the present survey may also be archaeological.

4.2.3 Sample F

There are two main types of anomaly in this area. Firstly, there are two definite lengths of ditch type anomaly, with several other shorter lengths. Secondly, there are a few strong isolated anomalies similar to those identified in sample E.

4.2.4 Sample G

There are a number of linear anomalies in this sample. Some of the linears are probably related to those located in Sample F.

4.3 Field 3 (Summary Interpretation - Figure 7)

4.3.1 Sample H

There is a slight suggestion that there is a parallel pair of linear anomalies running across this survey area. There is also a single strong anomaly that may indicate a pit.

4.3.2 Sample J

In this sample there are a number of clear anomalies that must represent former field divisions.

Superimposed upon these are a few linear anomalies that may be the product of recent drainage. The latter are most clearly defined on the X-Y trace and the grey-scale summary for Field 3.

4.3.3 Sample K

There are two large ferrous anomalies near the centre of this sample. Despite these two areas of distorted data there is still evidence for archaeological type anomalies within the sample. The most curious of these is the linear anomaly running north-south that divides into two at the northern end which may represent a trackway.

5. Summary of Results

The magnetic data collected in this survey have provided a number of clear anomalies. Whilst the majority of the linear anomalies probably represent former field boundaries, some of the smaller anomalies may be the result of settlement features. In particular, the latter are concentrated in Sample E, Field 2.

References

Geophysical Surveys of Bradford 1990 Report 90/94 Shepton Mallet Bypass

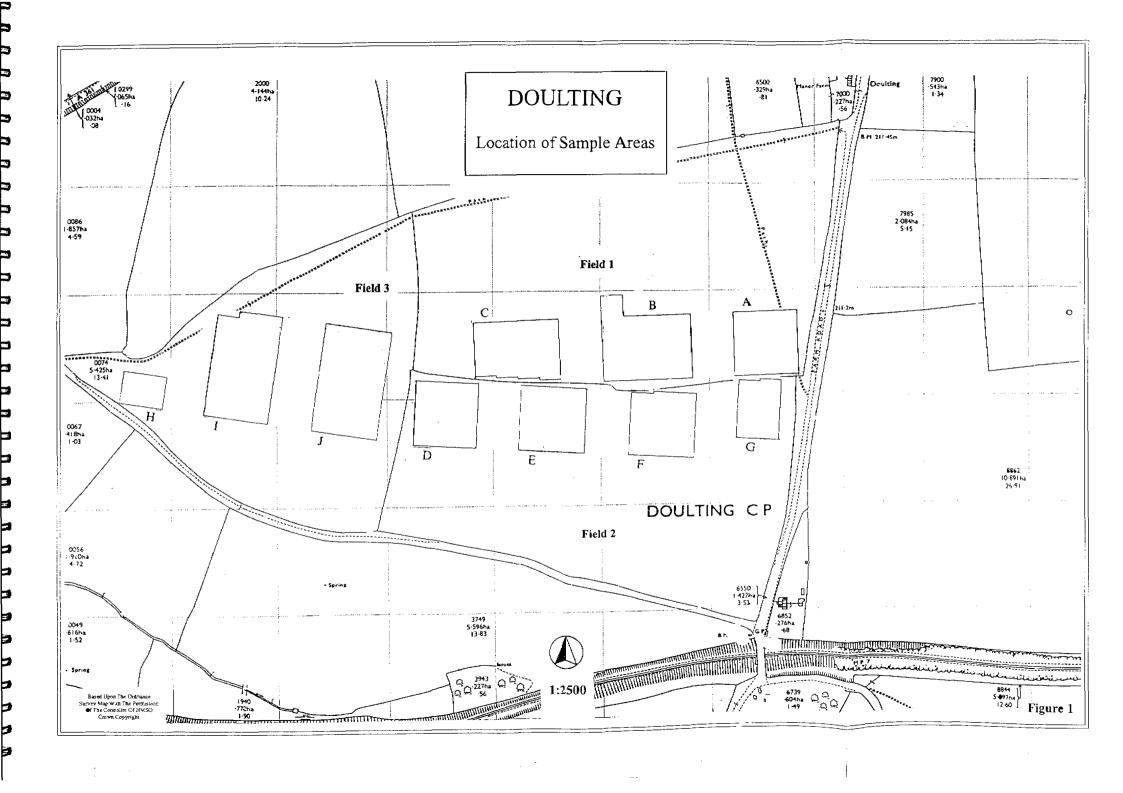
P. J. Leach 1991 An Archaeological Evaluation at Bullimore Farm, Shepton Matlet, Somerset 1991

Project Co-ordinator: Dr C F Gaffney

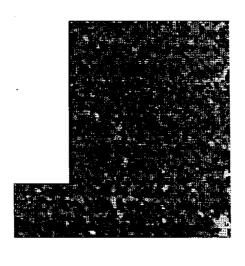
Project Assistants: V Gaffney and Y Minvielle-Debat

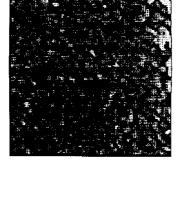
Geophysical Surveys of Bradford

24th January 1992



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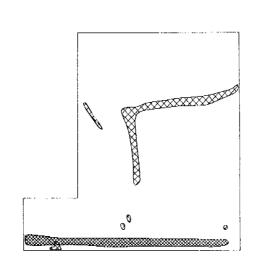
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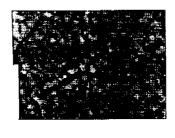


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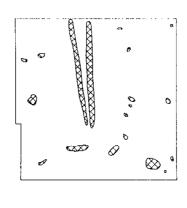






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Field 2 - Summary interpretation



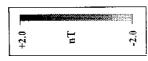
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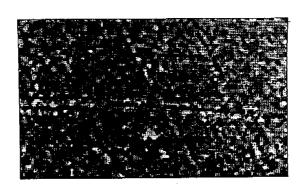
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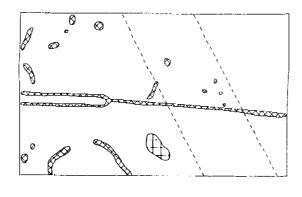
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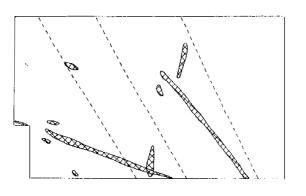




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Field 3 - Summary interpretation

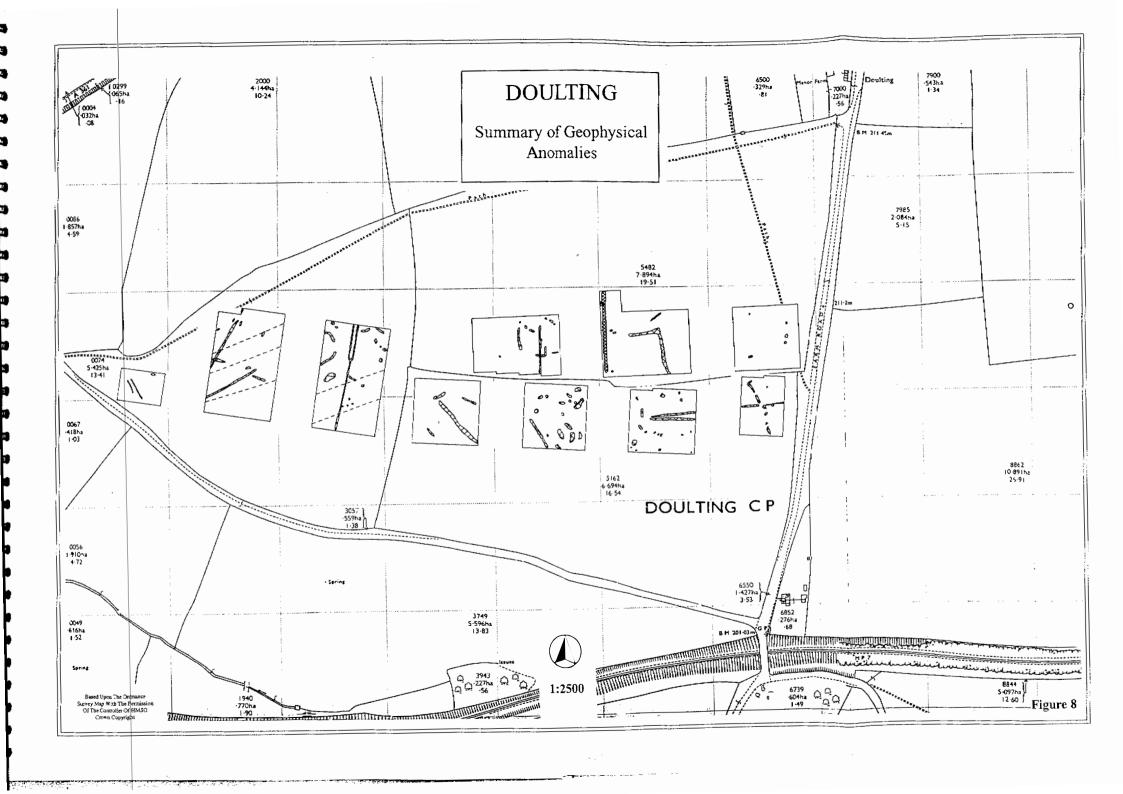


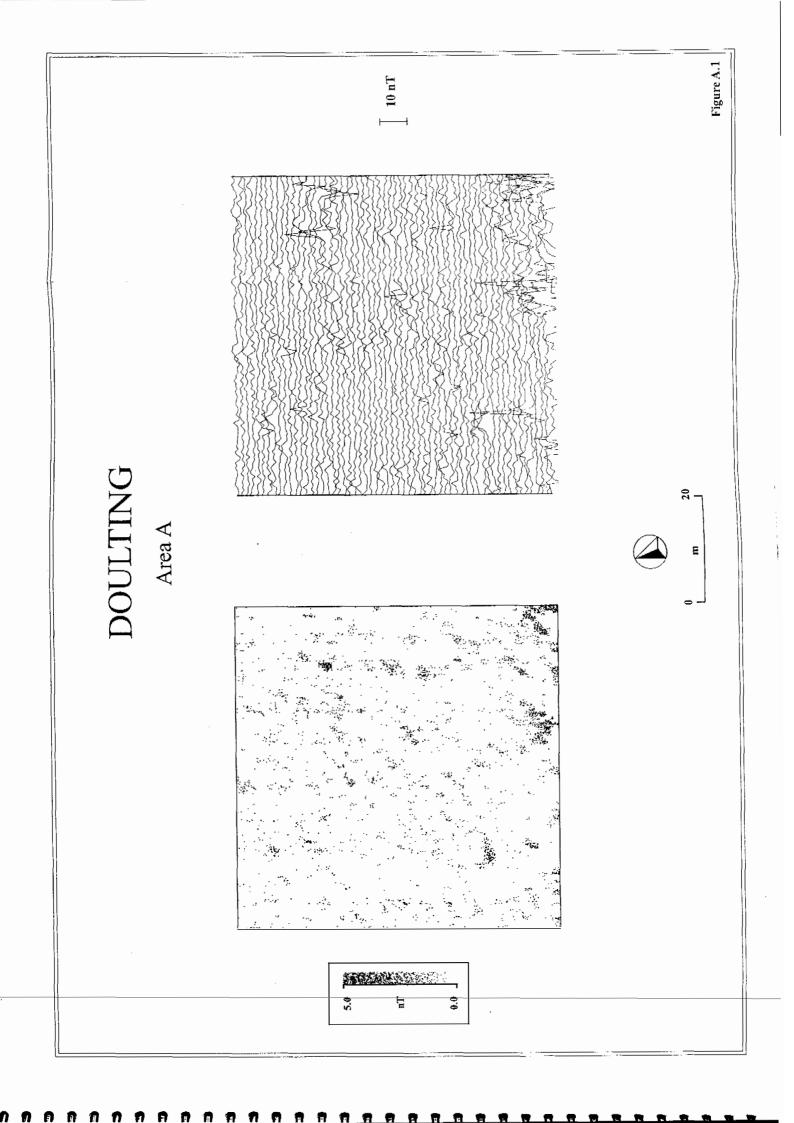


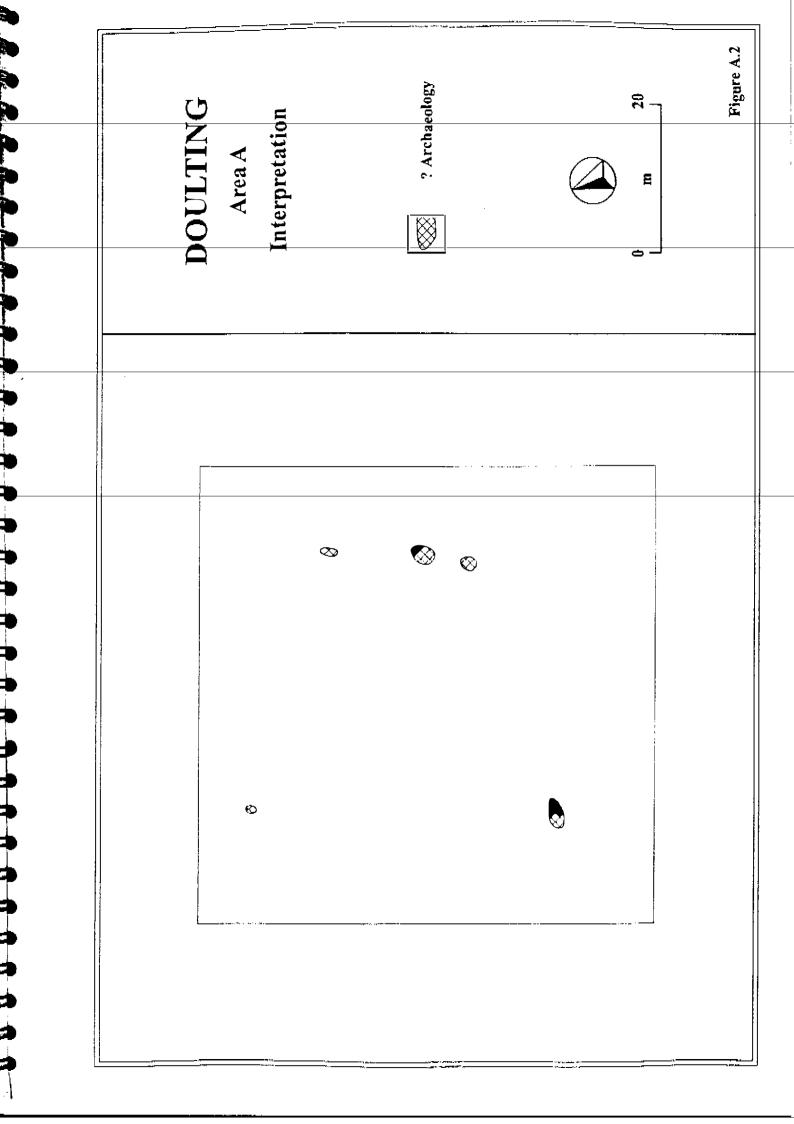


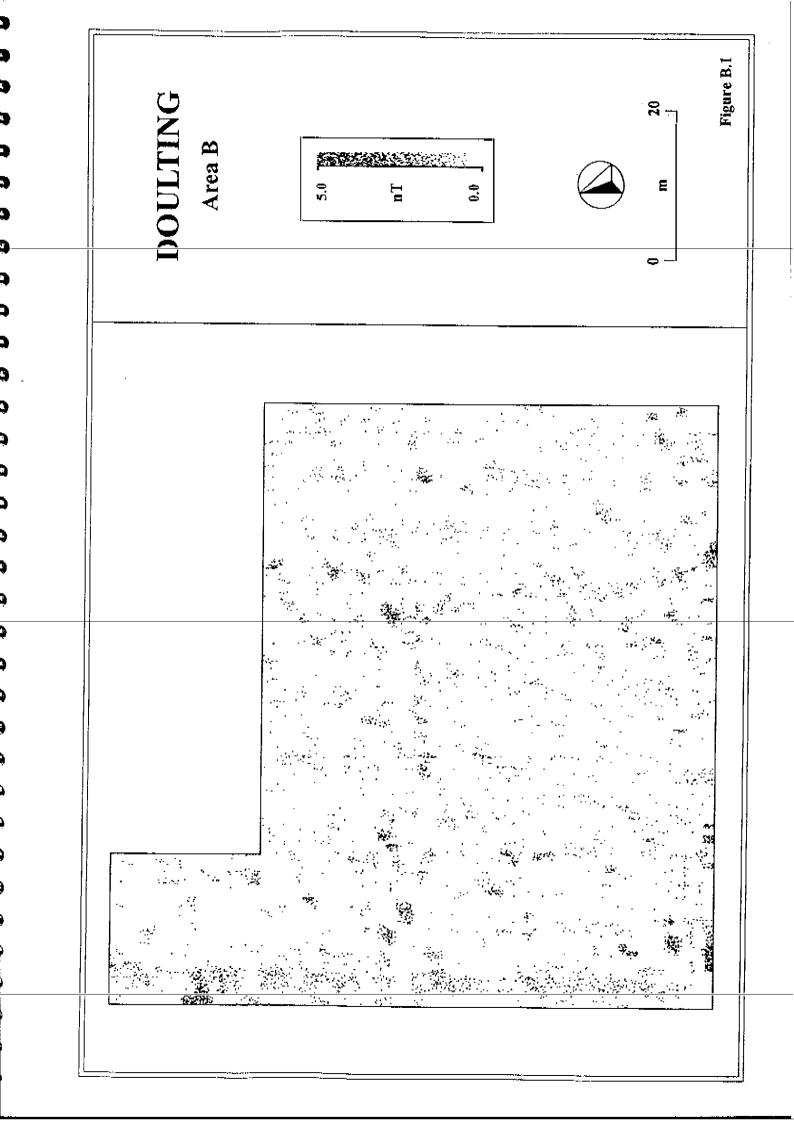


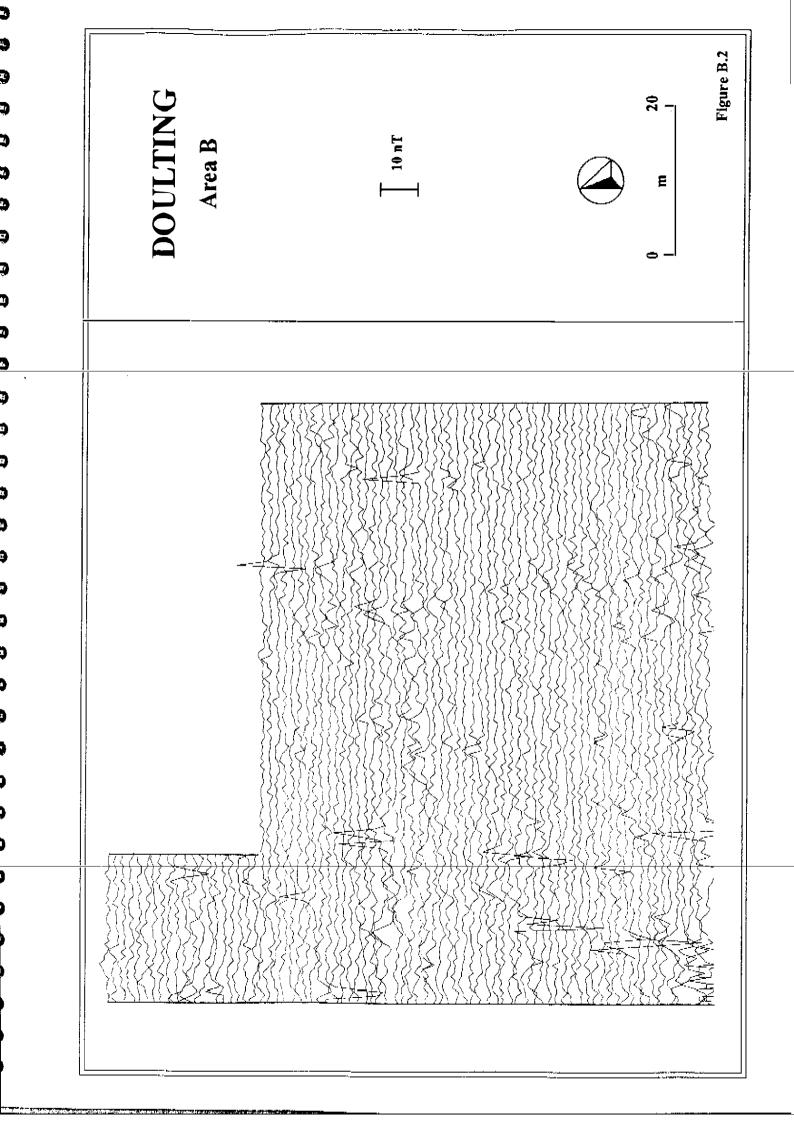
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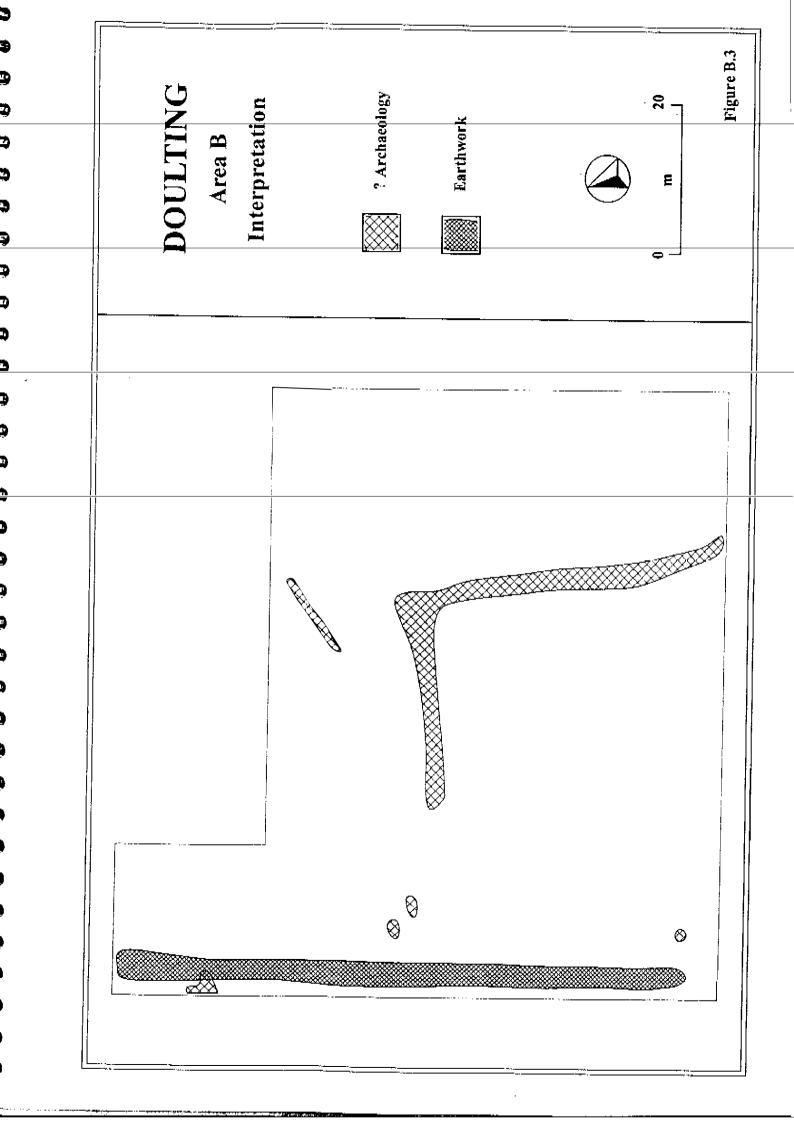


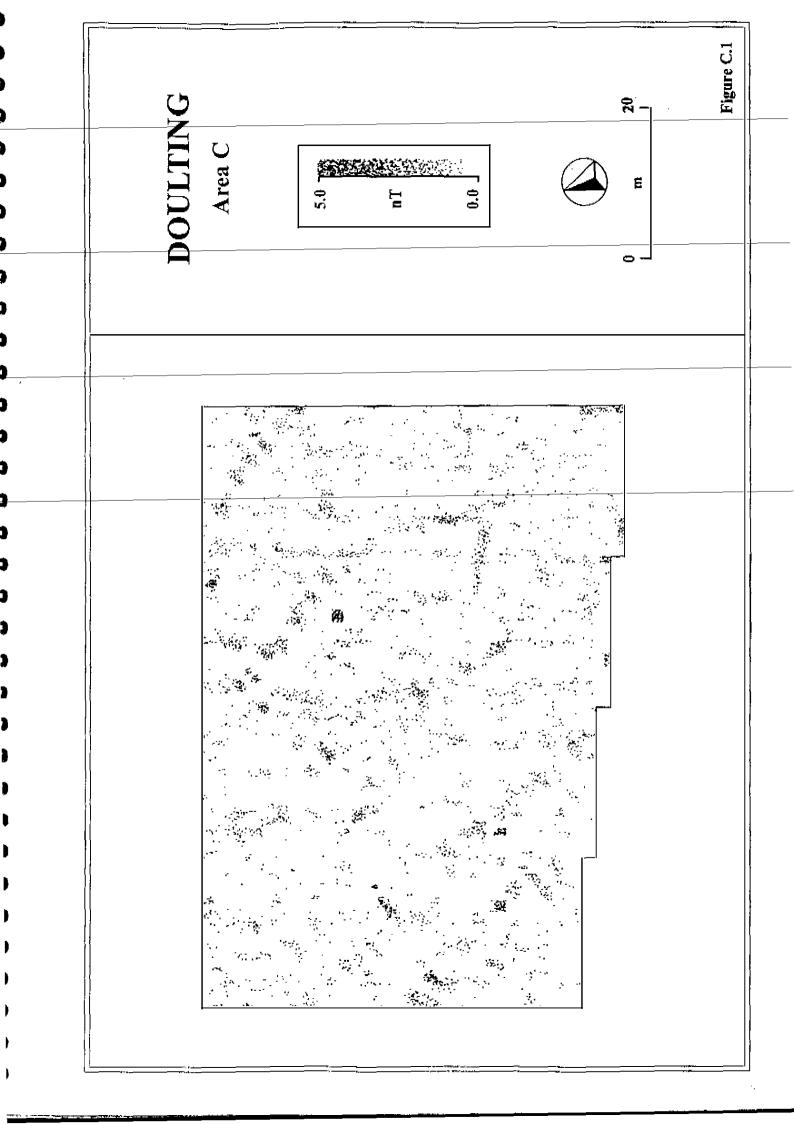


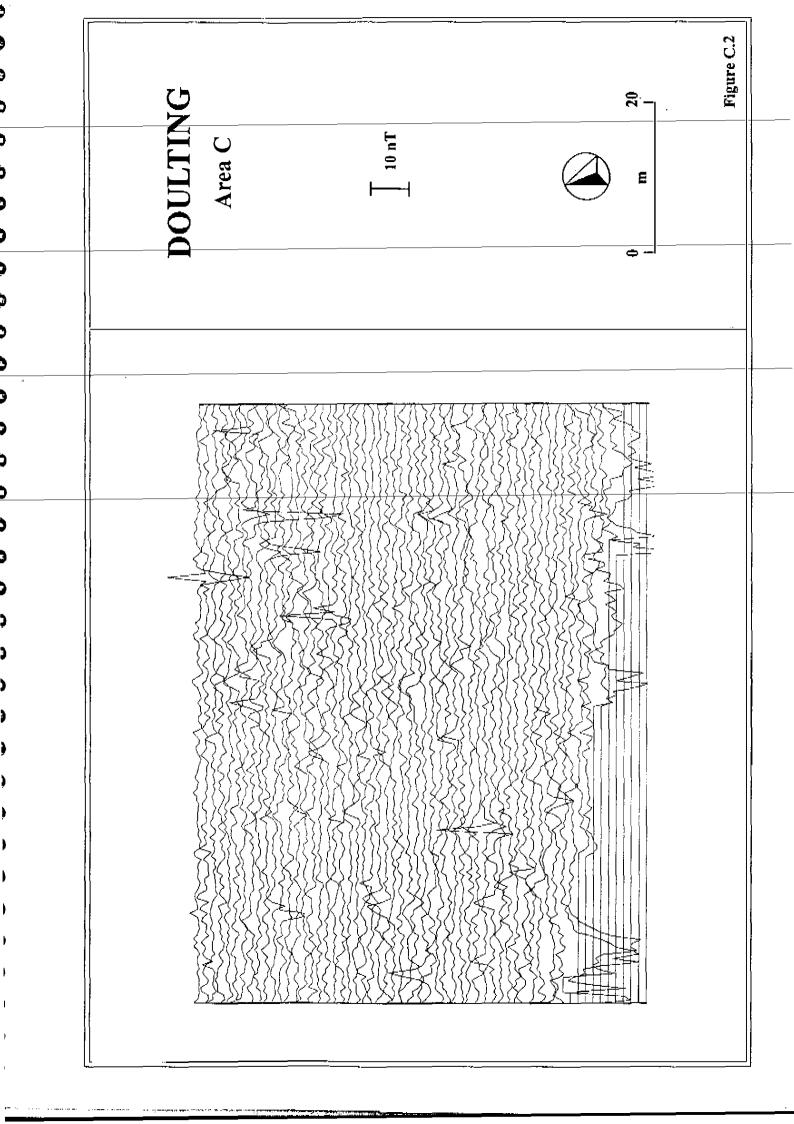


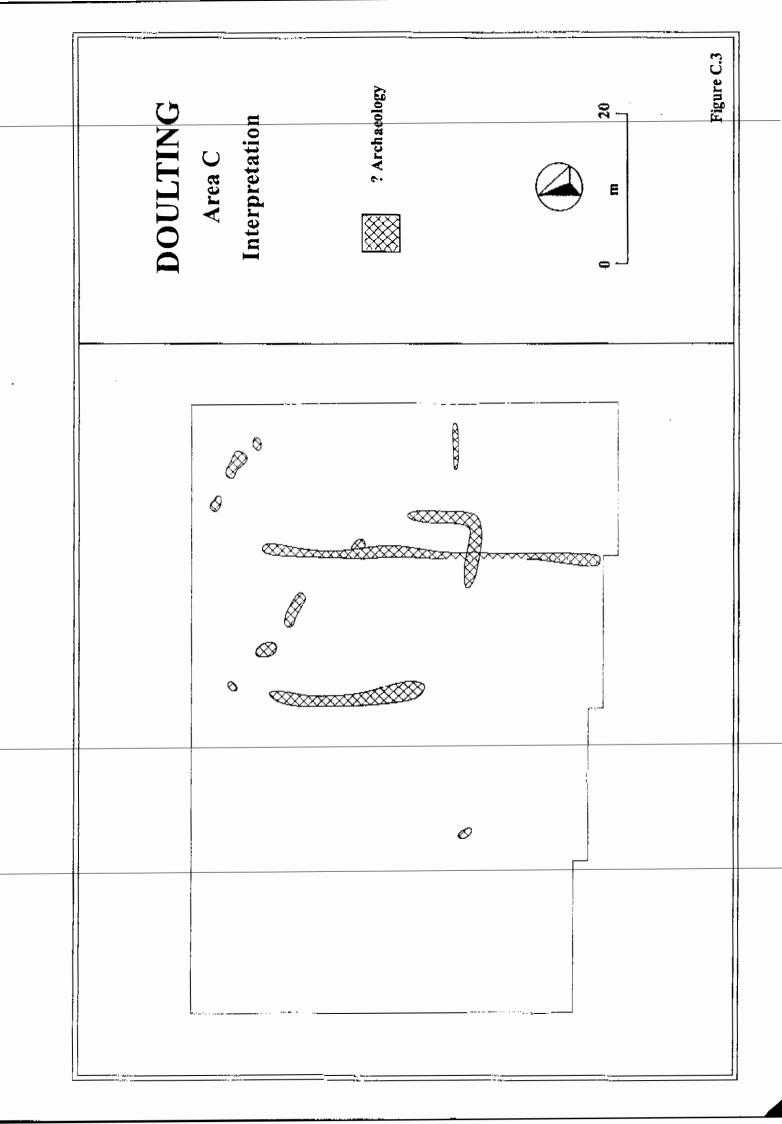


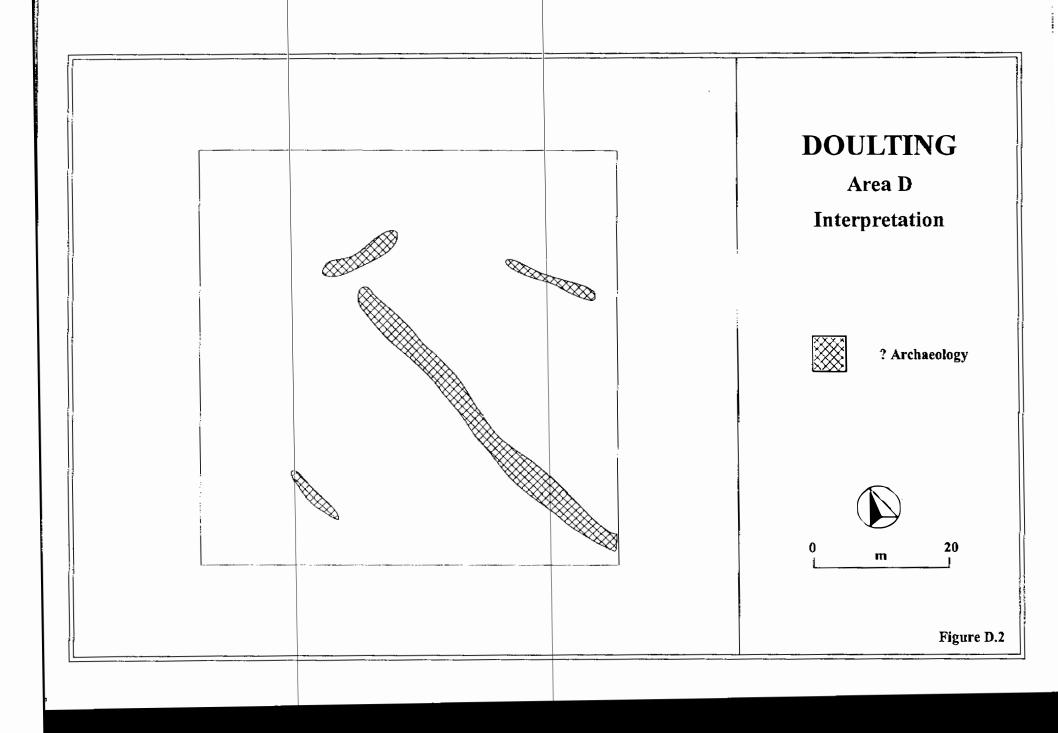


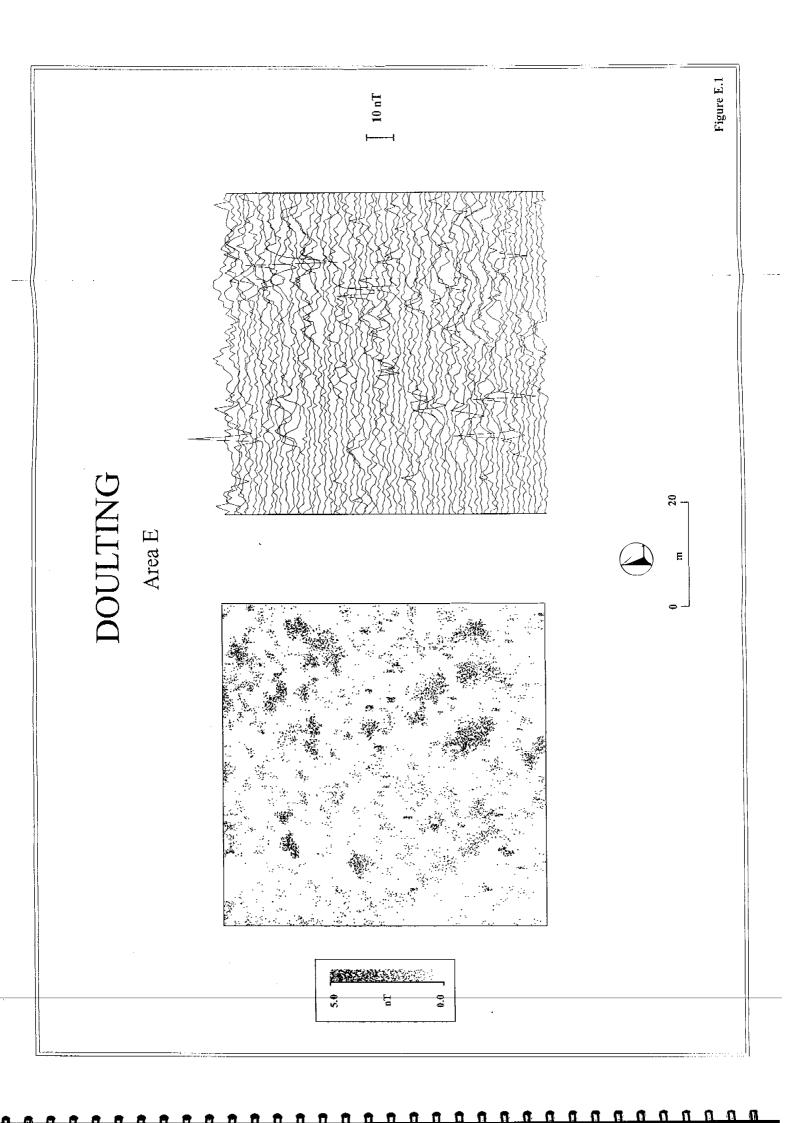


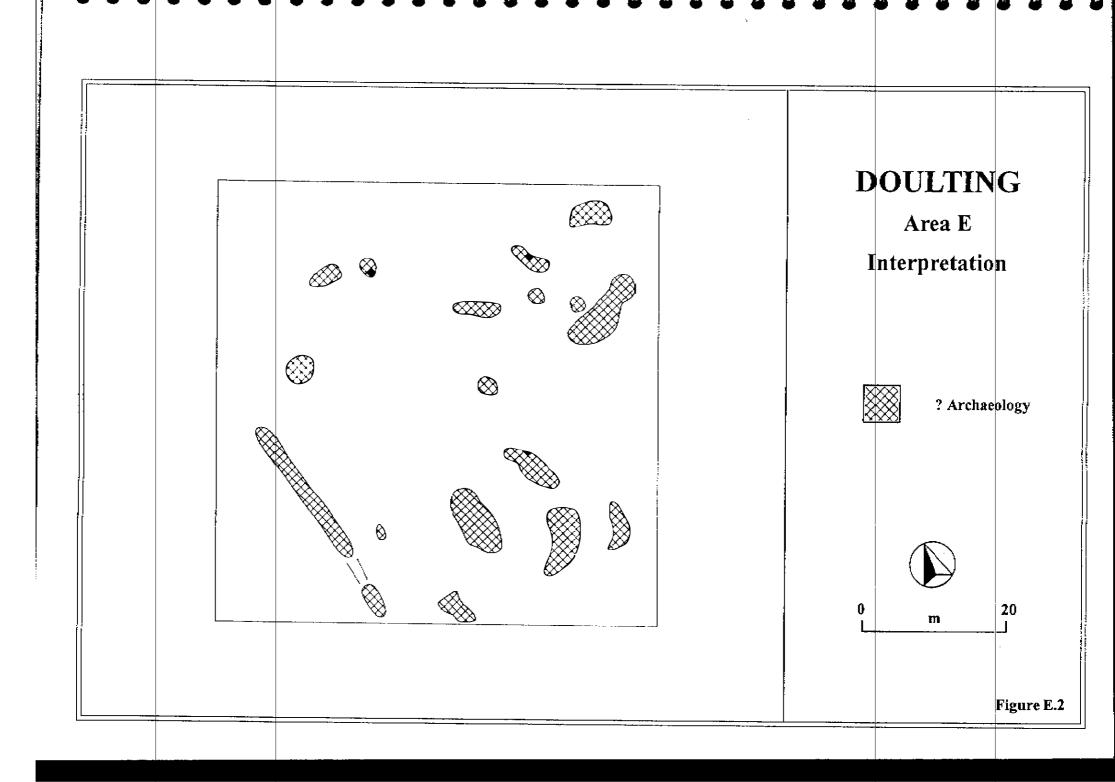


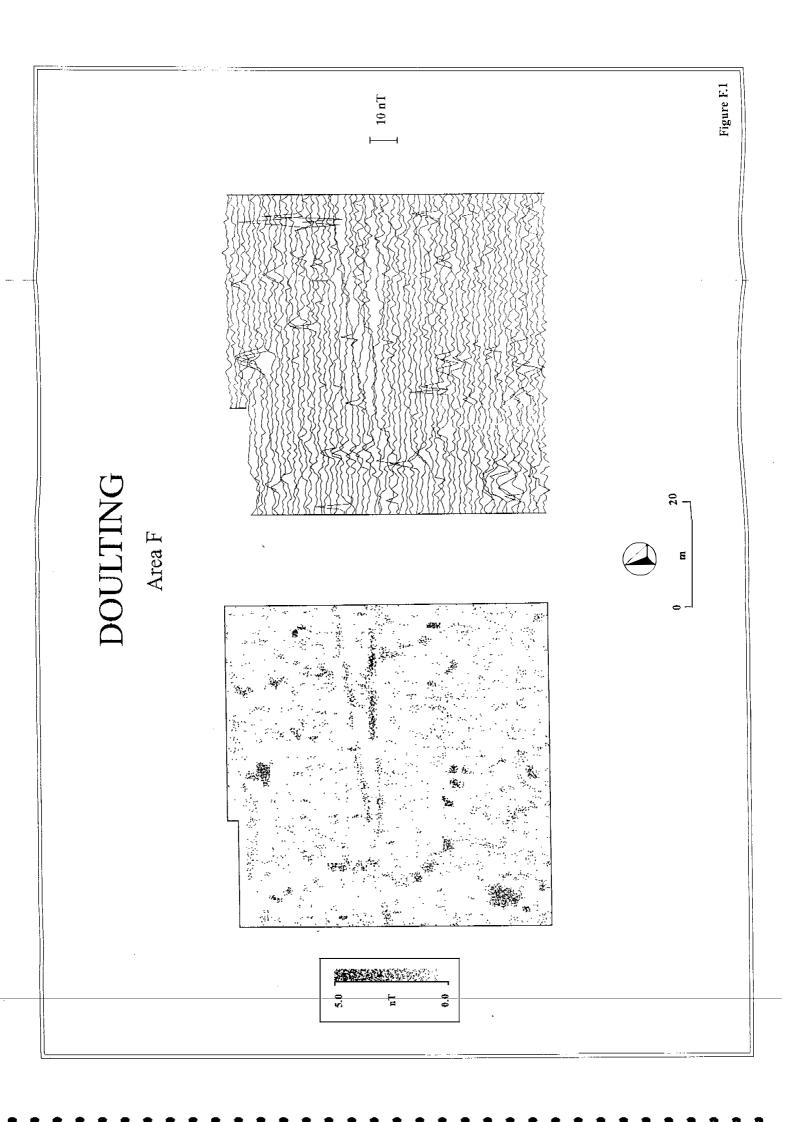


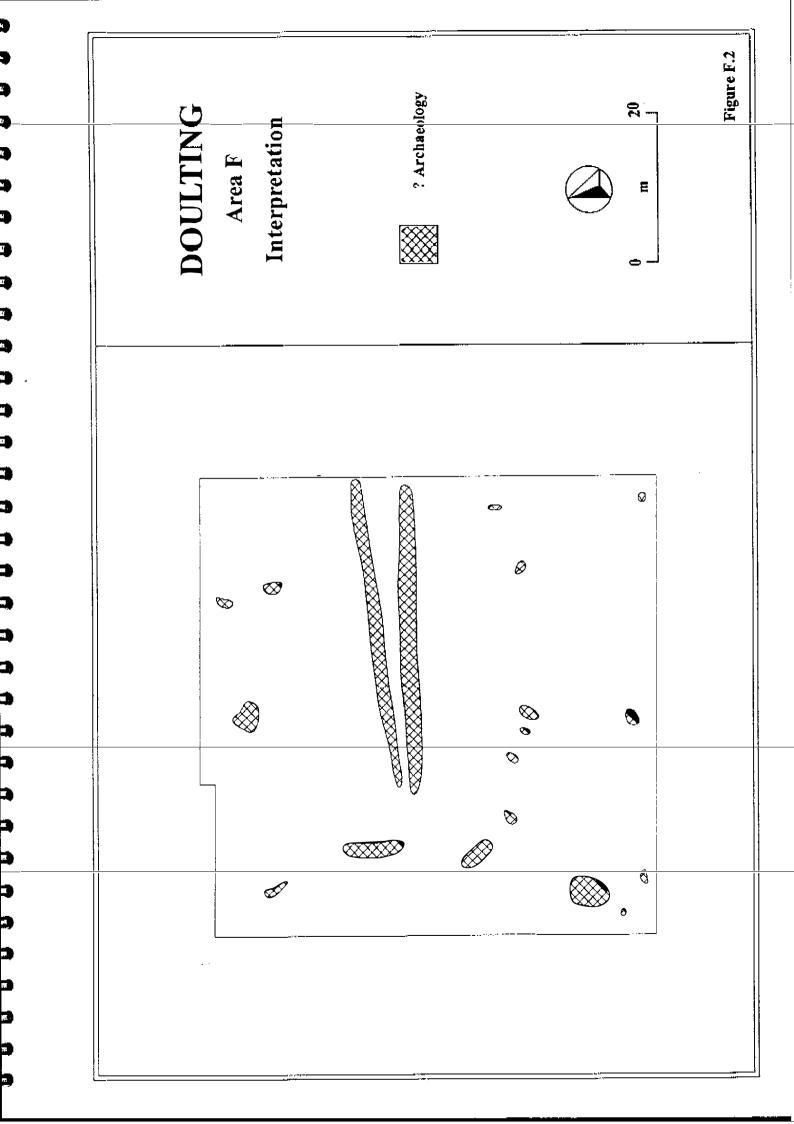


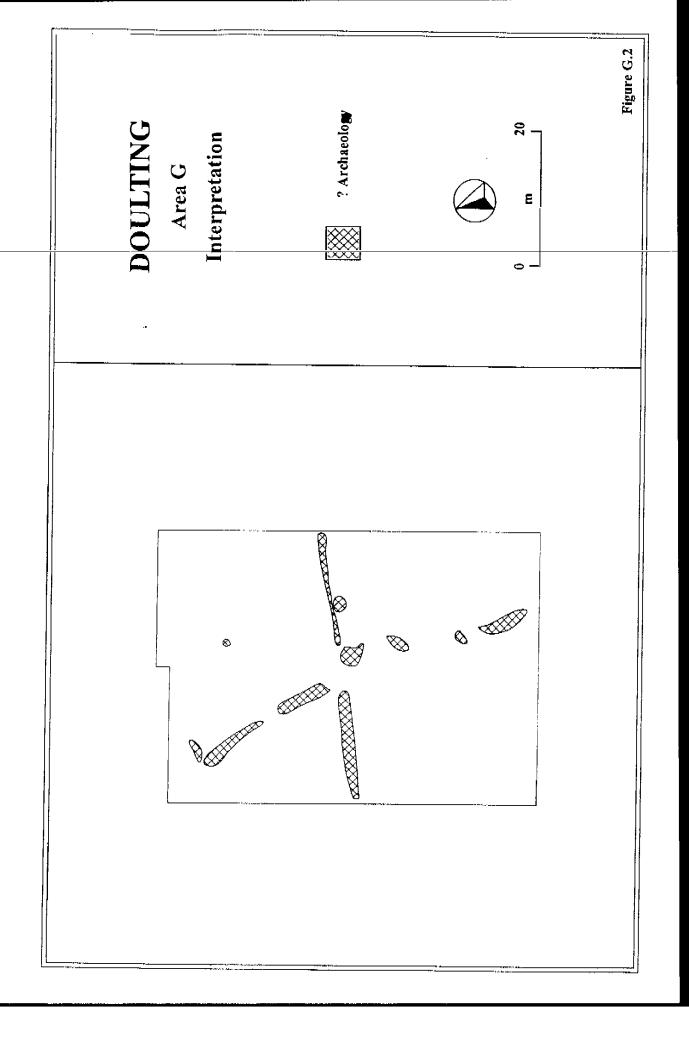








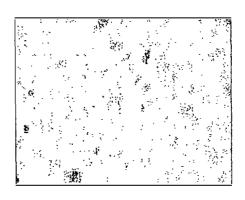




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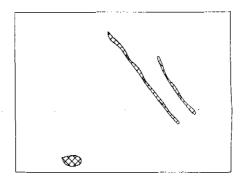


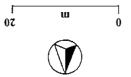
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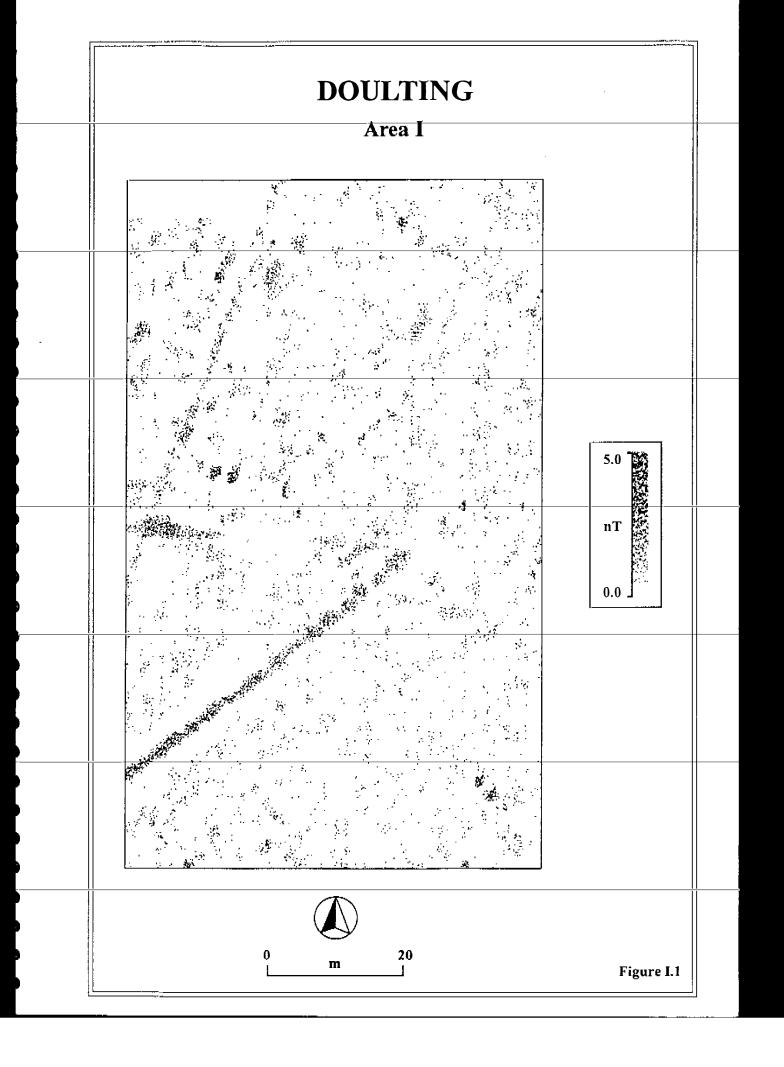
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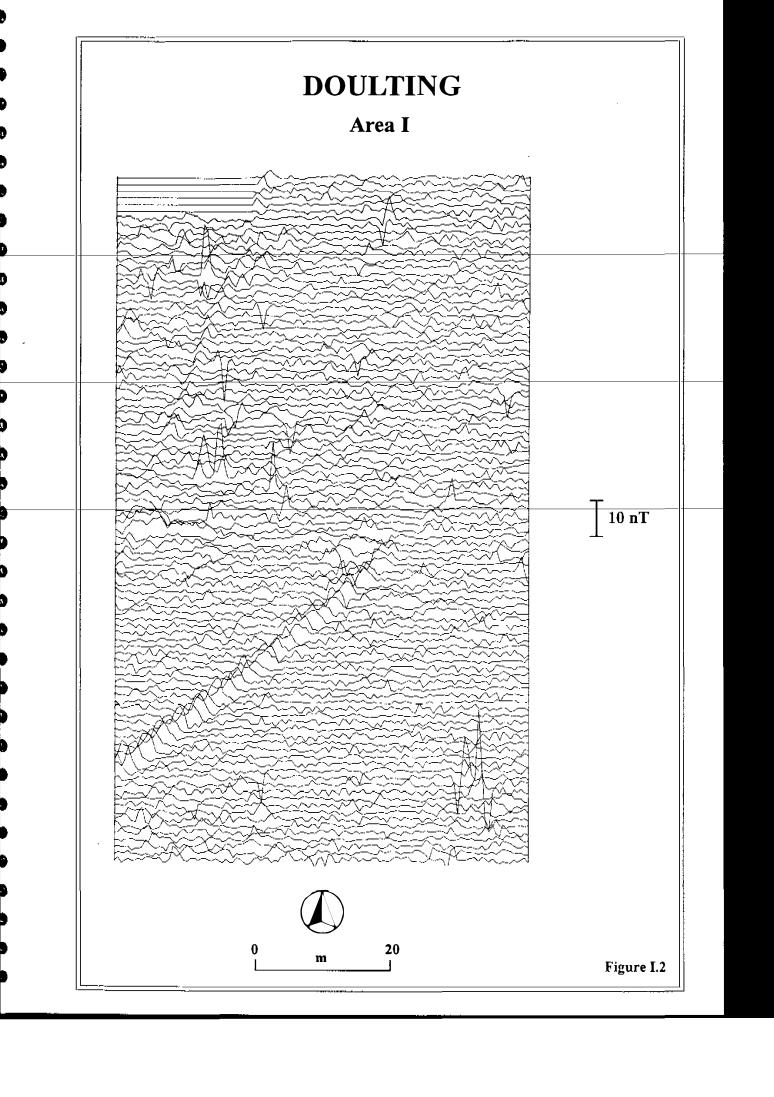


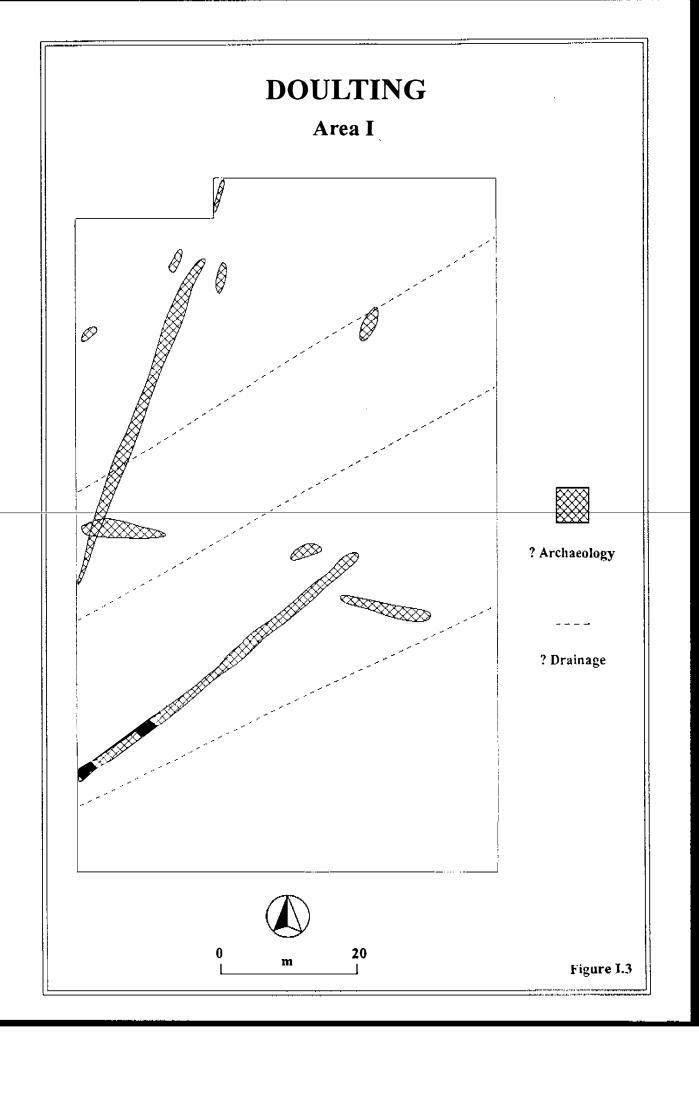


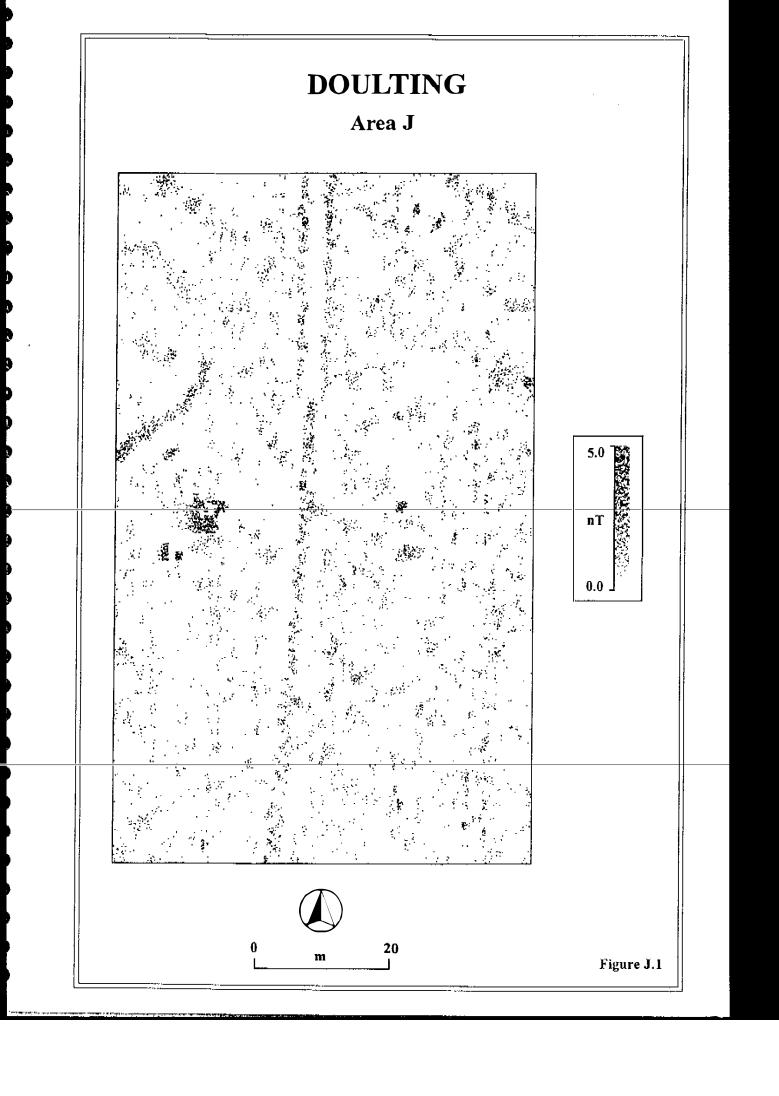


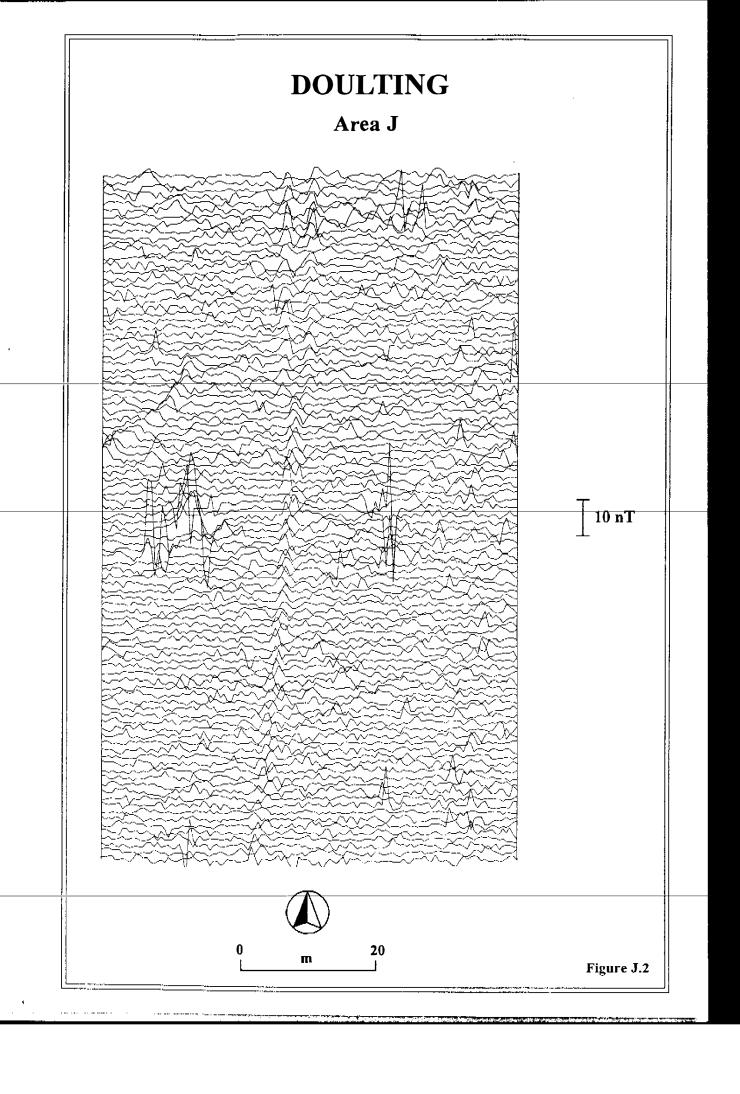
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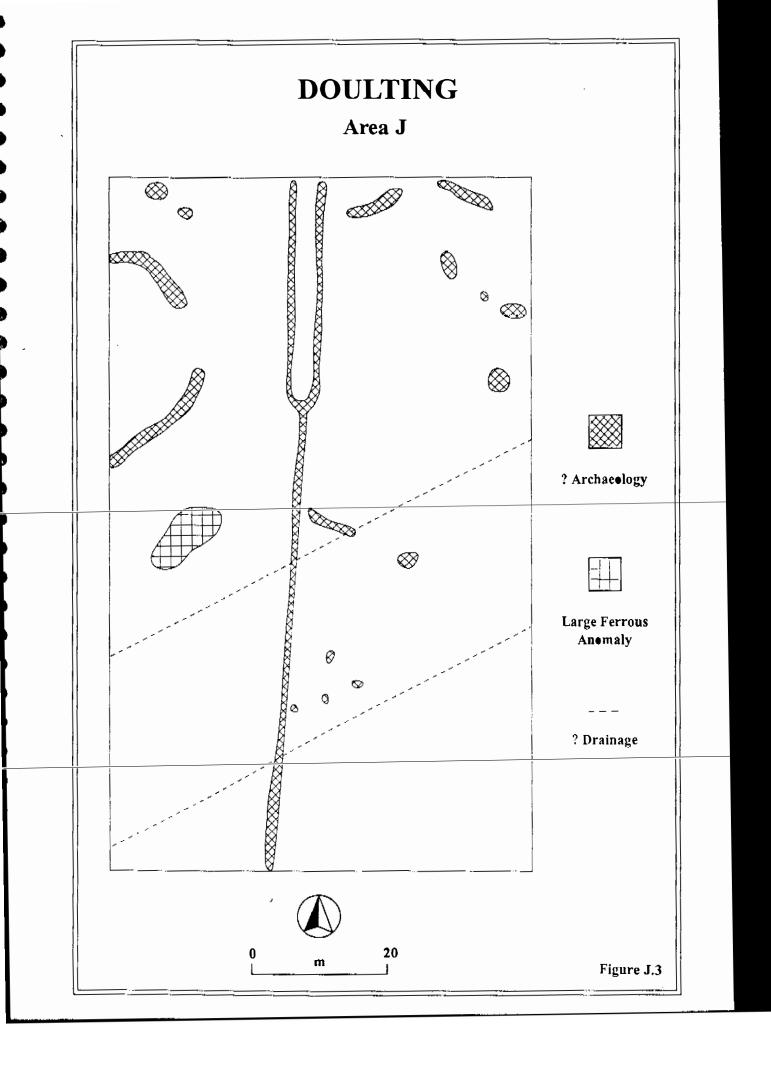














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REPORT ON GEOPHYISCAL SURVEY

M11 WIDENING JUNCTIONS 8-9

Report number 95/06

Work commissioned by:



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Geophysical Surveys of Bradford

SITE SUMMARY SHEET

95 / 06 MII Widening Junctions 8 - 9

NGR: TL 517 332 to TL 518 228 (see Results Section for specific site references)

Location, topography and geology

The surveys reported on here comprise four sites located immediately to the west of the existing M11 motorway between junctions 8 and 9, and between the villages of Newport in the north and Birchanger the south. The sites occupy gently undulating fields with varied ground cover. The geology of the area generally comprises clay overlying chalk.

Archaeology

Fieldwalking and excavation by Essex County Council Field Archaeology Group (ECCFAG), have located possible Roman and prehistoric sites. The suspected archaeology for each survey area is discussed in the Results Section.

Aims of Survey

To identify and define the extent of any archaeological activity in areas targeted by fieldwalking and/or trail trenching and one area under pasture that had not been assessed by fieldwalking. These aims were to be addressed using gradiometry and magnetic susceptibility. These surveys form part of the Stage III Archaeological Assessment being undertaken by **ECCFAG**.

Summary of Results *

Although several ditch and pit type anomalies have been located at the South of Newport site it seems probable that these relate to in-filled drainage ditches. The surveys at Ugley Hall Farm have not detected a continuation of the Roman site which lies to the east of the motorway. The clearest gradiometer results are from Parsonage Farm, Stansted, where several weak linear responses and possible pits have been recorded. However, the data are confused by a strong linear response which may indicate a former field boundary. The results from the survey at Parsonage Farm Trading Estate indicate one linear response which is likely to be modern, possibly agricultural.

* It is essential that this summary is read in conjunction with the detailed results of the survey.

•Geophysical Surveys of Bradford, February 1995

For the use of Essex C.C.

SURVEY RESULTS

95 / 06 M11 widening Junctions 8 - 9

1. Survey Areas (Figures 1-2, 5, 11, 14)

- 1.1 Figure 1 shows the approximate location of the sites investigated by gradiometry and magnetic susceptibility, at a scale of 1:50 000
- 1.2 Individual diagrams at 1:2500 showing the location of the survey areas are provided for each site.
- 1.3 The survey grid was established and tied-in by Geophysical Surveys of Bradford. Detailed tiein information has been lodged with the client.

2. Display

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- 2.1 The data from the detailed gradiometry surveys are displayed as X-Y traces, dot density plots and grey scale images at a scale of 1:500. Interpretation diagrams are also provided for each area at the same scale.
- 2.2 The results from the volume magnetic susceptibility survey are displayed in the sume formats at a scale of 1:2500.
- 2.3 The display formats referred to above are discussed in the Technical Information section, at the end of the text.

3. General Considerations - Complicating factors

- 3.1 Although the majority of the survey areas occupy gently undulating fields, which supported young crops at the time of survey, extremely wet conditions combined with the clayey soils and strong winds have made surveying difficult. In some instances, this has resulted in increased levels of background noise, but for most of the data sets this has not hindered interpretation of the results.
- 3.2 The surveys at South of Newport were on a ploughed, weathered field that was extremely wet and waterlogged. These ground conditions combined with rain and wind made survey extremely difficult. It is clear from the two samples surveyed that there is a significant increase in noise which may mask weaker responses of archaeological interest. Due to the adverse ground conditions and the quality of the data, survey was abandoned after the two samples had been surveyed.

- 3.3 Deep ploughing shortly before the survey at Ugley Hall Farm prevented geophysical assessment of the central portion of this site. Gradiometer scanning is not possible in such conditions as it is very difficult to distinguish between possible archaeological responses and noise variations caused by the ground conditions. The same problems arise with detailed survey which are further aggravated by difficult walking conditions making collection of the data difficult, if not impossible. Volume magnetic susceptibility measurements could also not be taken over this ploughed area. The uneven surface and the resulting unconsolidated nature of the soil makes taking measurements difficult. Given the ground conditions, interpretations based on such results would be dubious.
- 3.4 Adjacent to all of the survey areas are 2m high chain-link fences running alongside the motorway. Although every effort has been made to minimise distortions in the data caused by these fences, in some instances it has been unavoidable.
- 3.5 Throughout most of the survey areas there are several isolated ferrous responses which are almost certainly modern in origin. These are not discussed in the text unless considered relevant.
- 3.6 Given the local geology one would expect a magnetically quiet background while the contrast between any archaeological anomalies and the surrounding subsoils should be sufficiently detectable. Accordingly, the survey results should be a fair to good reflection of any surviving archaeological deposits.

1206 4. Results: South of Newport (Figures 3-4)

NGR: TL 517331. Two areas were surveyed at this site which occupies a gently sloping ploughed field of clay over chalk. Fieldwalking located concentrations of Roman pottery and a 3rd/4th century Roman coin. Work carried out on the line of the existing motorway located Roman pits and ditches.

4.1 Area A

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- 4.1.1 The level of background noise is noticeably increased by the adverse ground and weather conditions. Within the data there are suggestions of two linear responses which may be of archaeological interest, indicating an extension of the known Roman site. However, the responses are within the levels of noise and as such interpretation is extremely tentative.
- 4.2 Area B
- 4.2.2 The data are dominated by a relatively strong, broad linear response orientated approximately southwest-northeast; parallel to the existing field boundaries. Given this alignment and the nature of the response it seems likely that this indicates a former field divisions, probably a drainage ditch. A second weaker linear anomaly, with the same orientation is visible in the southeast of the survey and may be of a similar modern/agricultural origin.
- 4.2.3 Along the eastern limit of the survey there are several pit type responses. While these may be archaeological their close proximity to the field edge and the presumed drainage ditch casts some doubt on this interpretation.

4.2.4 A curvilinear anomaly is visible along the southwestern limit of the survey. This may be archaeological, although the limited survey has made interpretation difficult. This anomaly appears to lie beyond the road corridor.

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5. Results: Ugley Hall Farm (Figures 6 - 10)

NGR: TL 529 285. The area under investigation covered three gently undulating fields. Gradiometry was undertaken in the northern pasture field, no work was possible in the middle ploughed field, and gradiometry and magnetic susceptibility were carried out in the southern, seeded field. The geology comprises clay with chalk inclusions. Fieldwalking has identified a possible prehistoric and Roman site in the north. Trial trenches excavated in 1993 recorded Roman features in the south believed to be on the margins of a known site immediately to the east of the M11 motorway.

- 5.1 Area A
- 5.1.1 A detailed survey of 20m by 120m was carried out in this area after scanning located magnetic variations of archaeological potential.
- 5.1.2 A weak linear response runs the length of the survey area and coincides with a slight ridge visible in the ground, which is presumed to be modern.
- 5.1.3 The linear anomaly crossing the northern part of the survey may be archaeological, although a modern origin cannot be ruled out.
- 5.1.4 The large ferrous response towards of the centre of the survey area is almost certainly modern.
- 5.2 Area B
- 5.2.1 Scanning located possible pit type responses in the south of the area and a small detailed survey was undertaken. From the data it is apparent that the level of background response is relatively quiet. Two possible pit type anomalies, which may be archaeological, have been noted although such an interpretation is tentative.
- 5.3 Magnetic Susceptibility
- 5.3.1 A volume magnetic susceptibility survey was carried out over the southern portion of the site, 40m by 240m, with readings at 10m intervals, as indicated in Figure 5.
- 5.3.2 There is a clear increase in the susceptibility in the north of the survey although no discrete anomalies were located during scanning. Given the geological conditions, the change from c.12 SI units to c.30 SI units is significant and cannot be explained by purely natural processes.
- 5.3.3 It is possible that past manuting, which may be archaeologically significant, could be responsible for the increased enhancement. However, the area of increased enhancement is clearly defined which makes such an interpretation unlikely. A more plausible explanation is that the increased susceptibility represents a former field with the sharp increase marking the boundary. This interpretation is supported to some extent by the field divisions shown on the •S map in the wooded area to the west of the survey, which are of a similar alignment and size to that suggested by the magnetic susceptibility data. It would seem likely that such a field could be medieval or post medieval.

Results: Parsonage Farm, Stansted (Figures 12-13)

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NGR: TL 519 234. An area of 100m by 40m was investigated in the corner of a flat field which supported a young crop at the time of survey. The underlying geology comprises clay and brickearth. Fieldwalking suggested a possible prehistoric site and prehistoric features have been recorded during trial trenching on the east side of the motorway.

- 6.1 A linear anomaly aligned approximately north-south runs the length of the survey. The broken nature and strength of the response suggests a possible former field boundary. It is interesting to note that this anomaly, if projected, would meet at a point of inflection on the northern field boundary. A few clear pit type anomalies have been located alongside this anomaly which may suggest an archaeological origin.
- 6.2 Throughout the survey area there are several weak linear responses suggesting possible enclosures. While these respect the alignment of the stronger linear they appear to be cut by the latter. The marked difference in the strength of the anomalies may be significant. Generally one would expect responses from prehistoric features to be weaker, although this would obviously depend on the nature of the remains. It is therefore possible that the stronger linear anomaly is later.
- 6.3 The slightly striped appearance of the data along the eastern edge of the survey is due to magnetic disturbance from the chain link fence.

7. Results: Parsonage Farm Trading Estate, Stansted (Figures 15 - 19)



NGR: TL 517 226. Two areas, A and B, were investigated at this site, with Area B being divided by a drainage ditch. The field supported a young crop at the time of survey and slopes away gently to the west. The underlying geology comprises clay and brickearth. Fieldwalking has identified two possible prehistoric sites represented by a cluster of filnt concentrations in the southand a small concentration of flint and prehistoric pottery in the north. Similar concentrations were found on the eastern side of the motorway.

- 7.1 Area A
- 7.1.1 The data from this survey are dominated by strong responses from a pipe running along the edge of the field. No anomalies of archaeological interest have been located.
- 7.2 Area B
- 7.2.1 There is a noticeable increase in the number of isolated ferrous responses within this data set. Trenching and fieldwalking in the area revealed numerous small pieces of metal which are remains of Nissen huts and general use of the site during the second world war (P. Allen pers comm.)
- 7.2.2 Towards the centre of the survey area a linear anomaly suggesting a ditch has been detected. This response is parallel to the existing field boundaries which perhaps suggest a modern origin. A weaker response on the same orientation and just to the west also suggests a modern/agricultural origin.
- 7.2.3 The equally spaced parallel negative responses aligned north-south are due to instrument noise caused by very strong winds.

8. Conclusions

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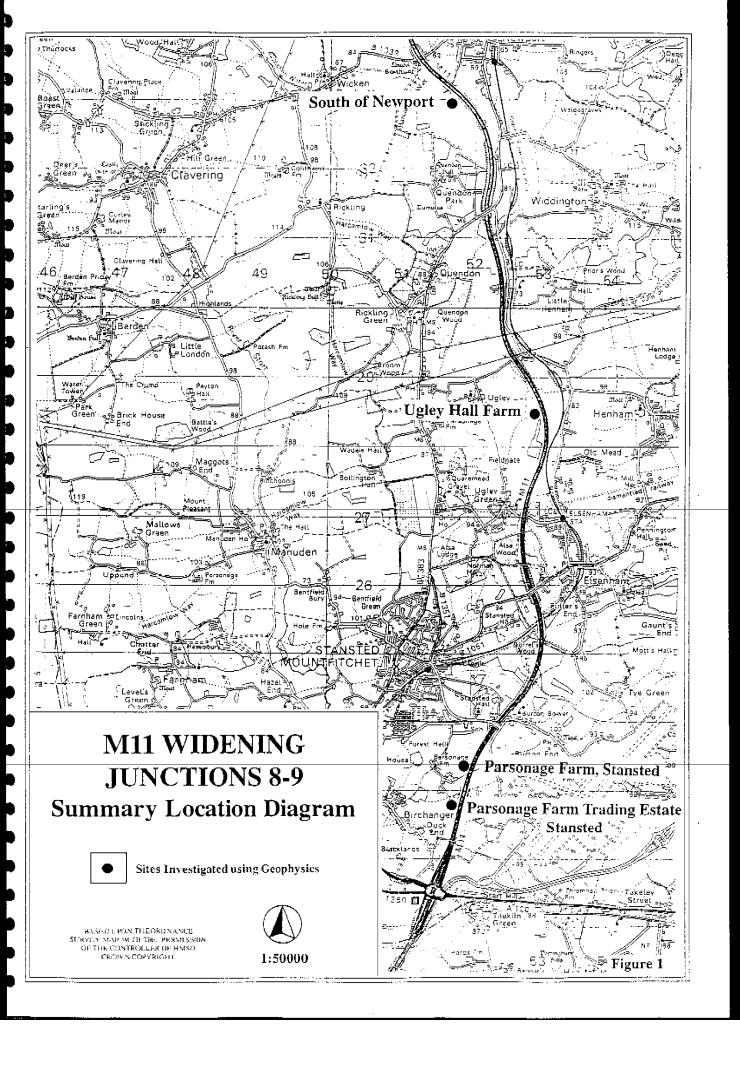
- 8.1 A few ditch and pit type anomalies have been located at the South of Newport site, however some, if not all, appear to relate to in-filled drainage ditches and associated modern material. Adverse weather conditions limited the area surveyed.
- 8.2 The surveys at Ugley Hall Farm have not detected a continuation of the Reman site which lies to the east of the motorway. The results of the volume magnetic susceptibility survey appear to have defined a former field of more recent age.
- 8.3 The clearest gradiometer results are from Parsonage Farm, Stansted where several weak linear responses and possible pits have been recorded. However, the data are confused by a stronger linear response which may indicate a former field boundary, although an archaeological origin cannot be ruled out.
- 8.4 The results from the survey at Parsonage Farm Trading Estate indicate one linear response which is likely to be modern, possibly agricultural.

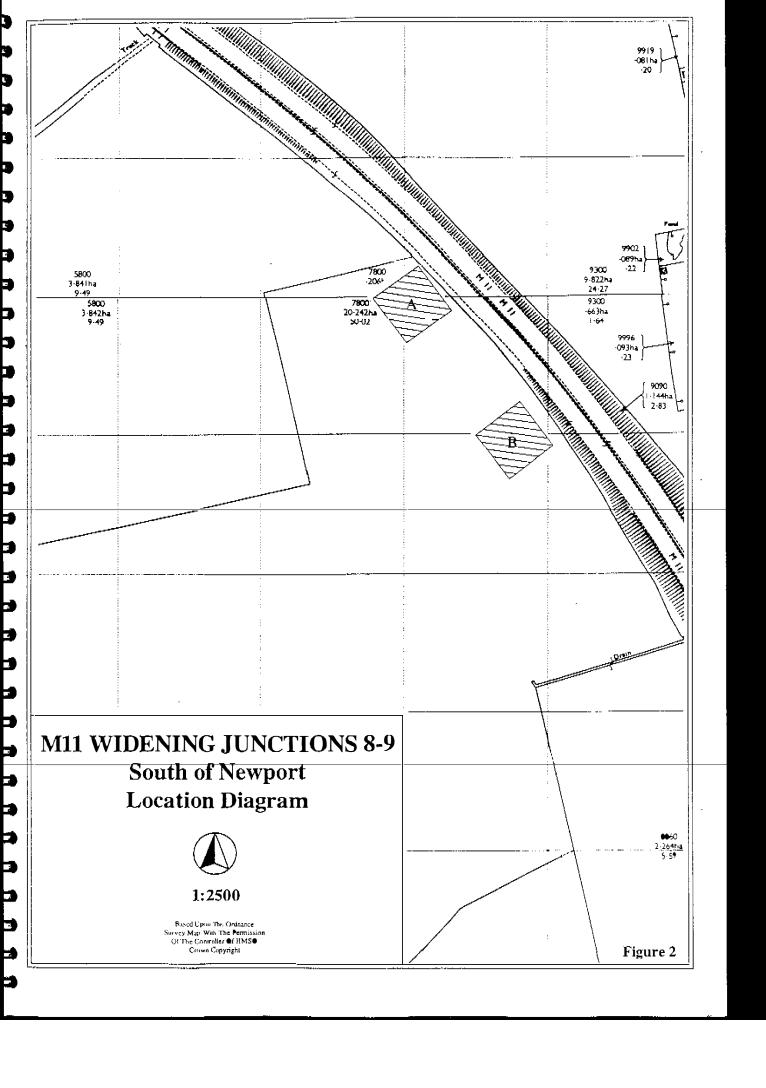
Project Co-ordinator:

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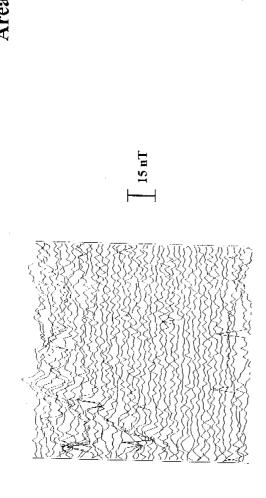
Project Assistants:

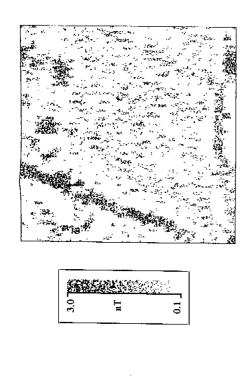
N Nemcek, A Shields and C Stephens

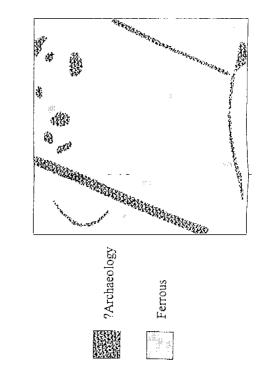


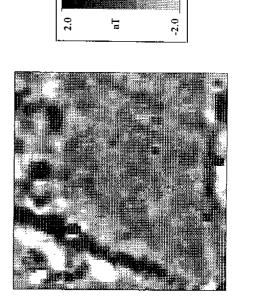


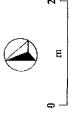
M11 WIDENING JUNCTIONS 8-9 South of Newport Area B

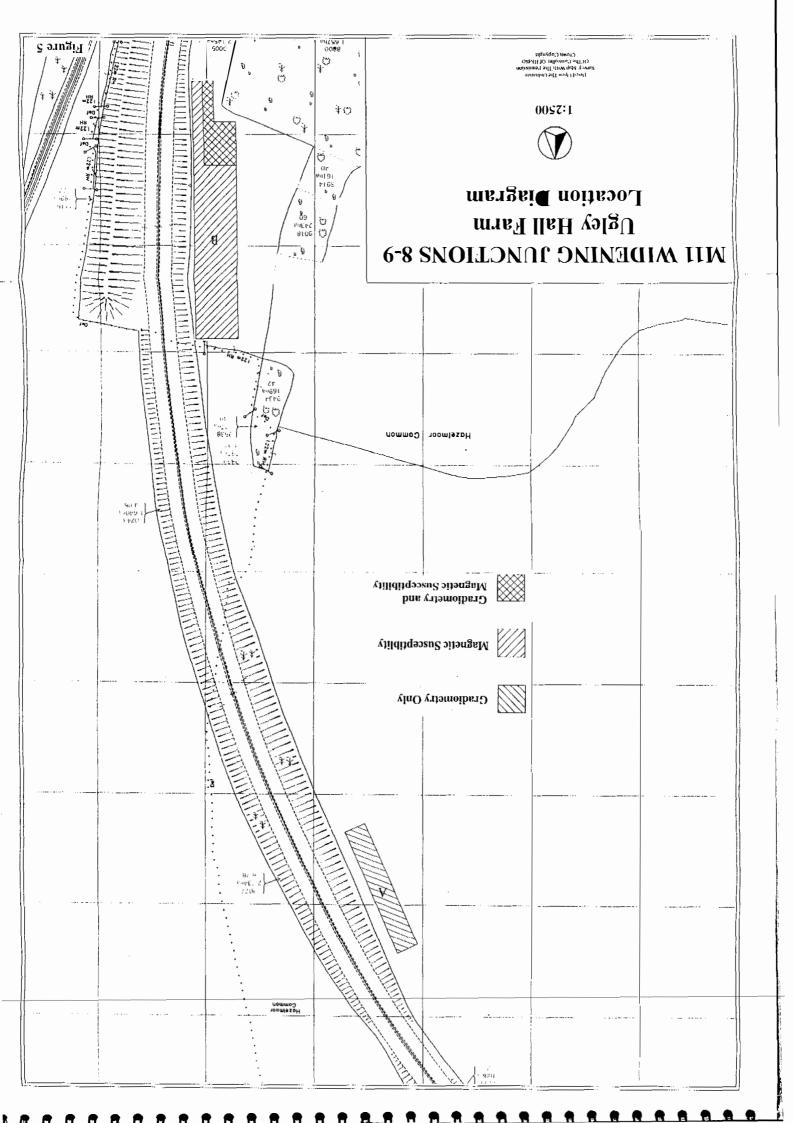


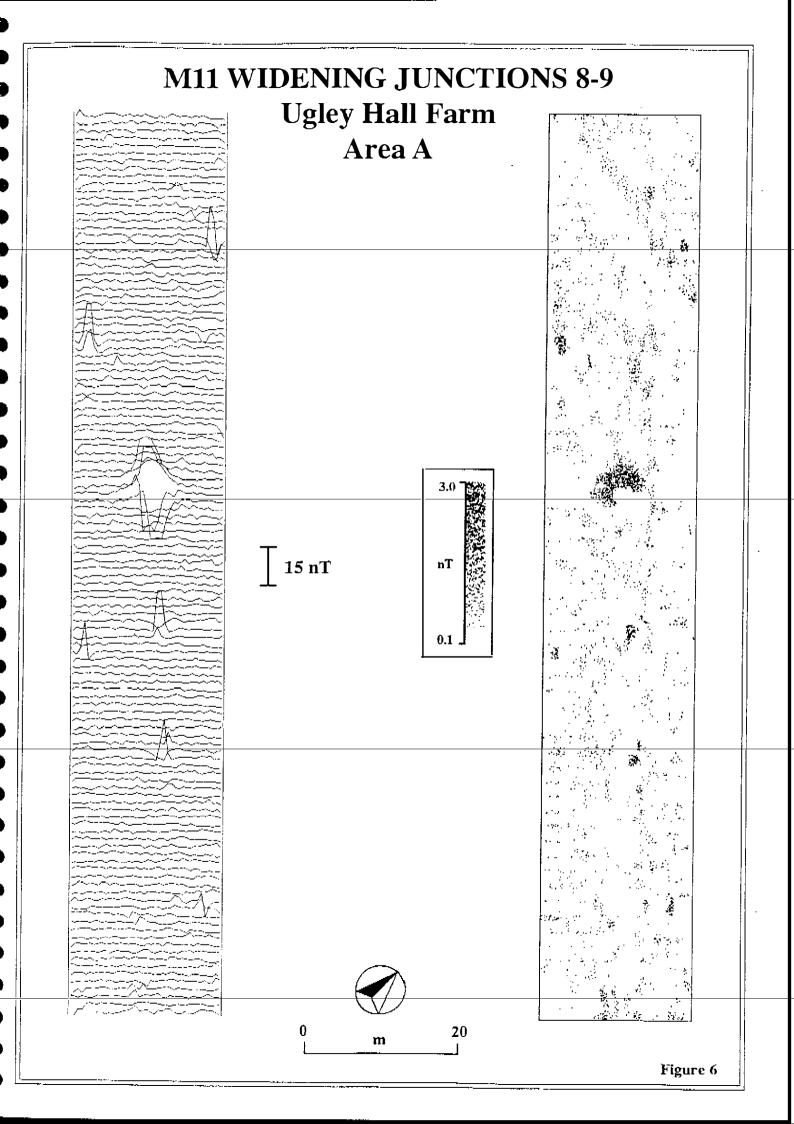


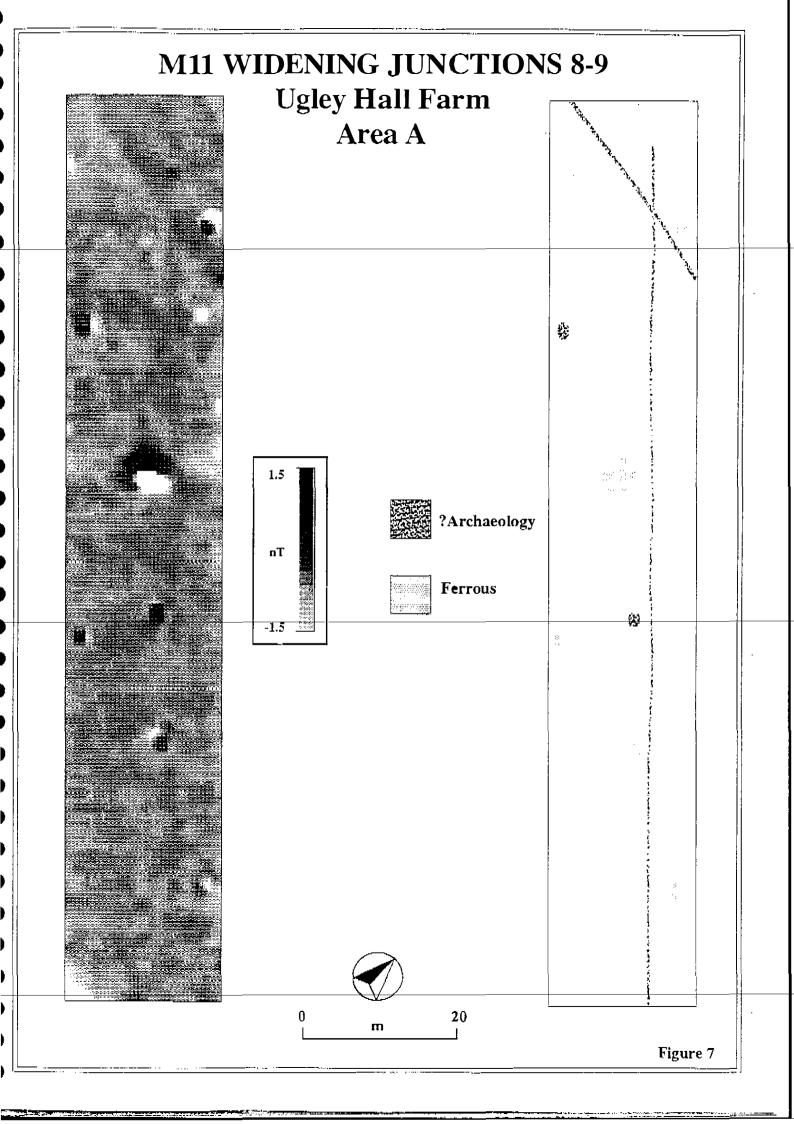


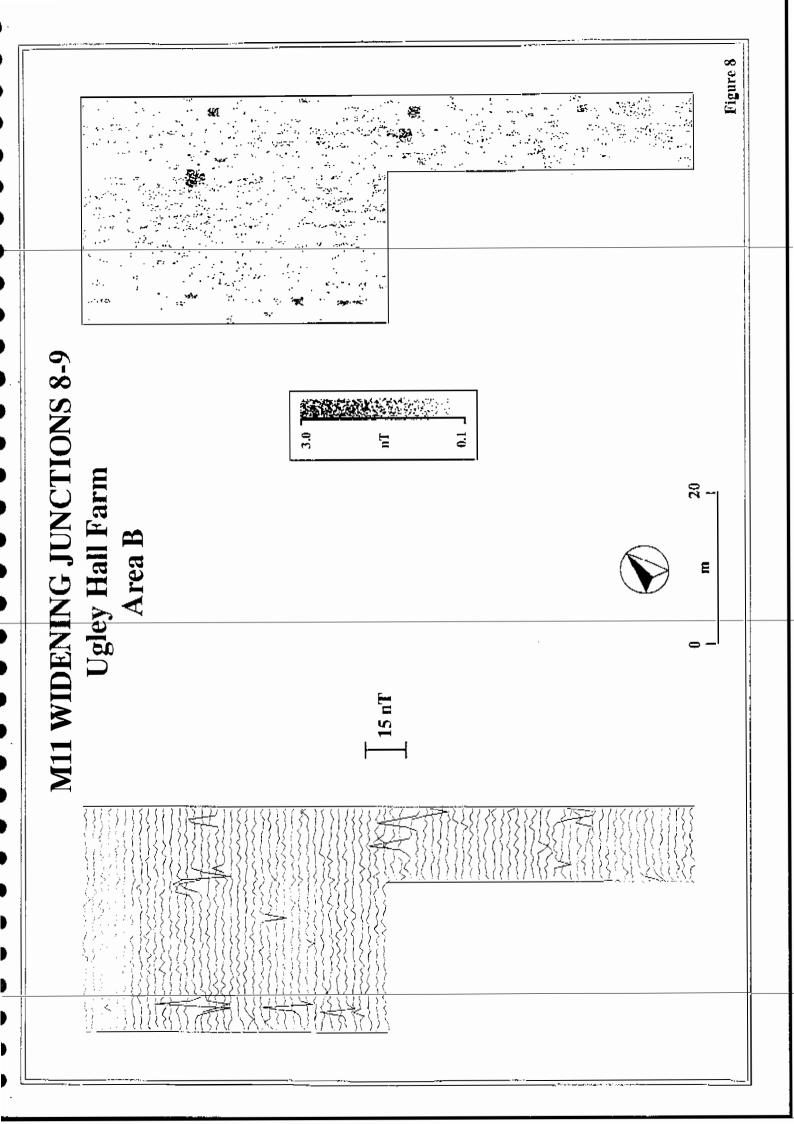


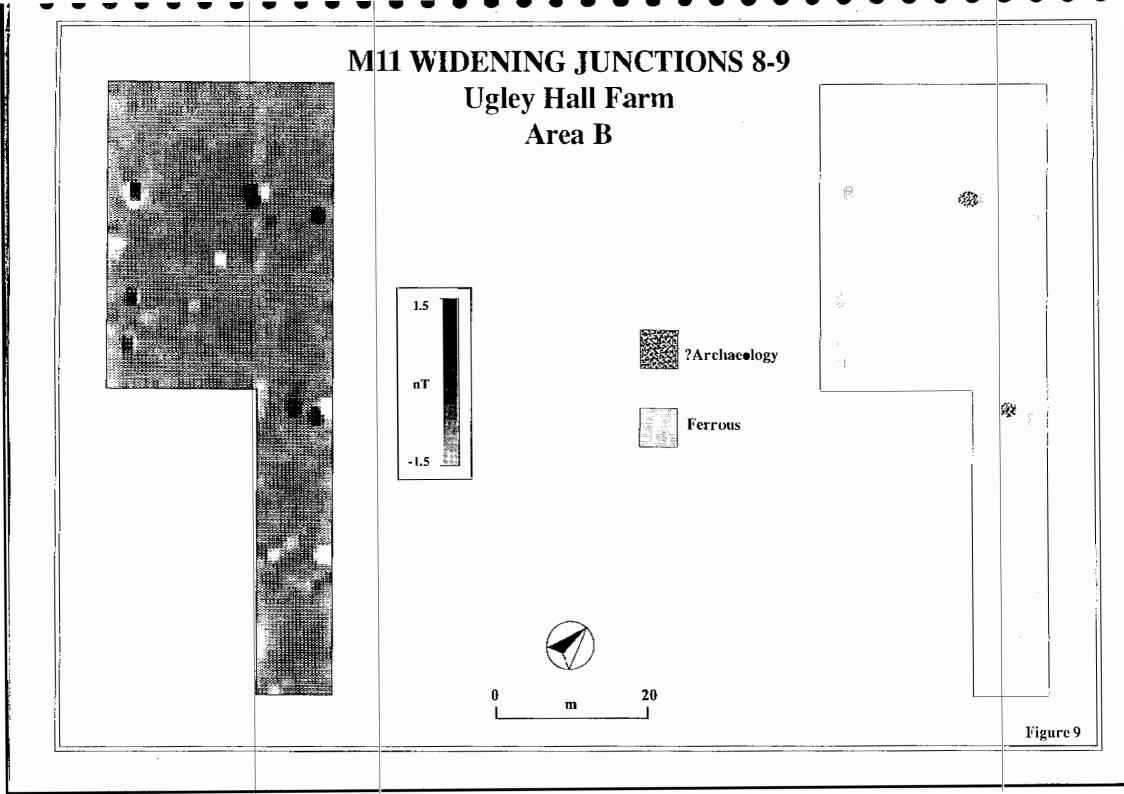




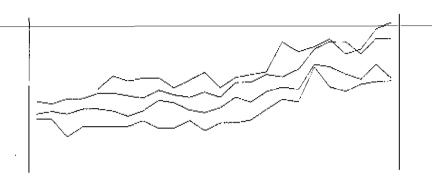








M11 WIDENING JUNCTIONS 8-9 UGLEY HALL FARM Area B Magnetic Susceptibility Survey



15 SI Units/cm

15 - 35

15 - 35 SI Units

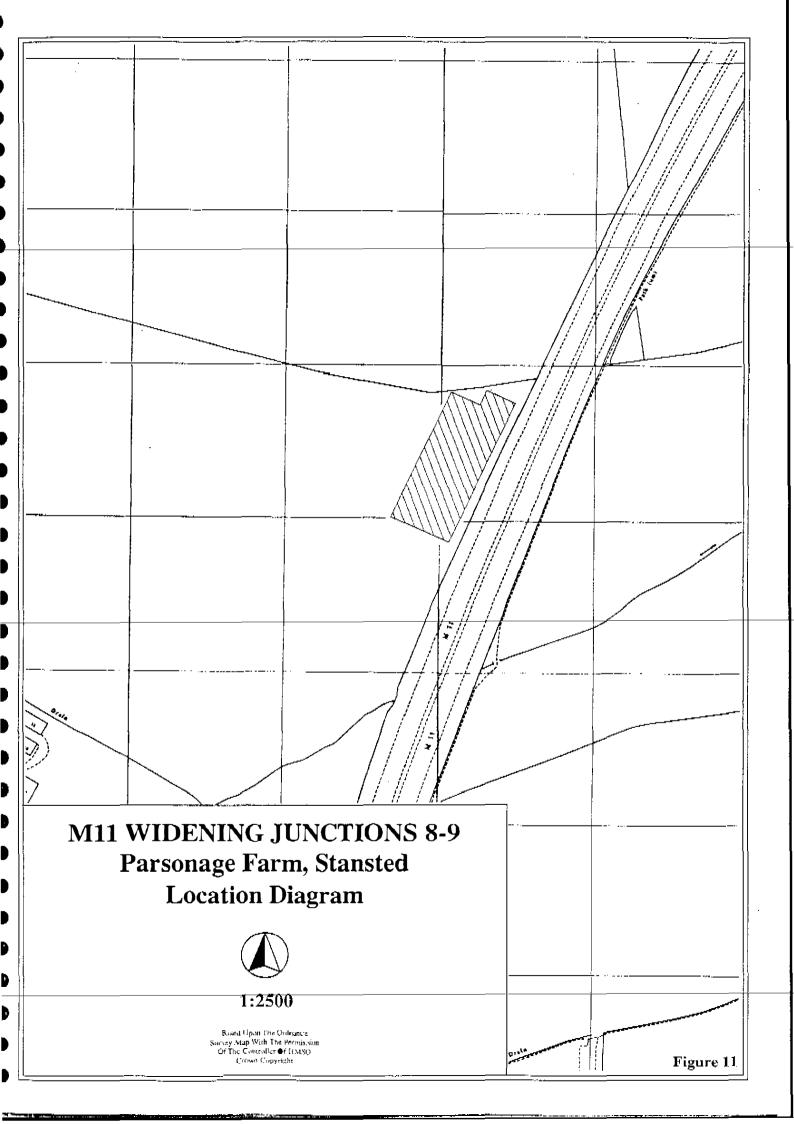


10 - 30 SI Units

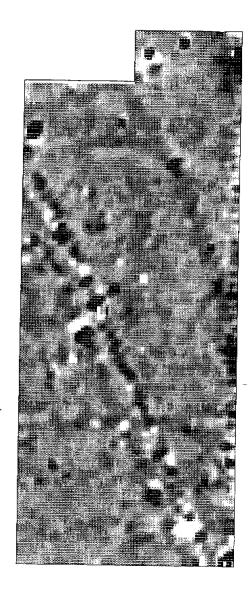


m 100

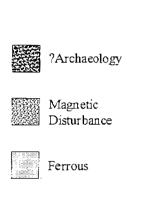
Figure 10

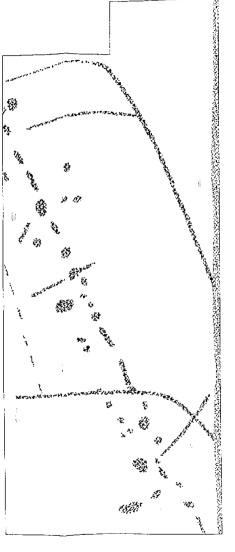


M11 WIDENING JUNCTIONS 8-9 Parsonage Farm, Stansted

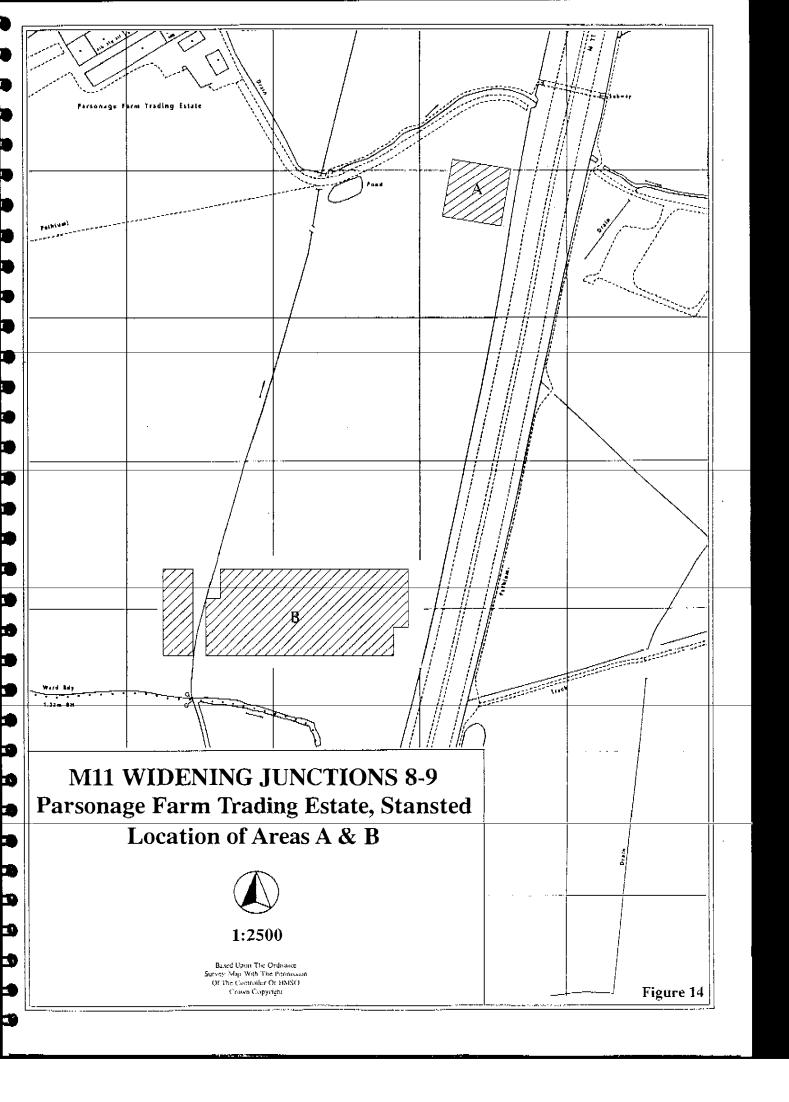




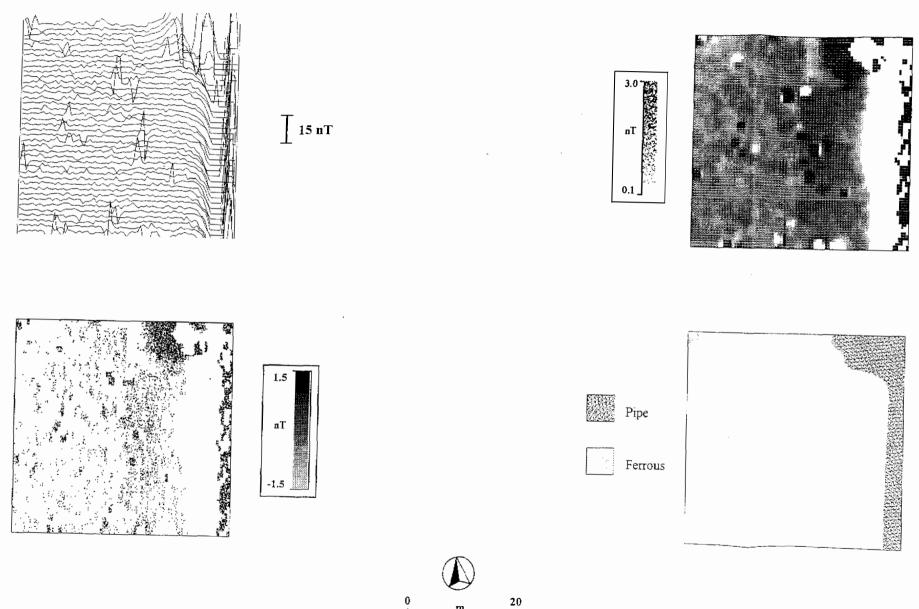




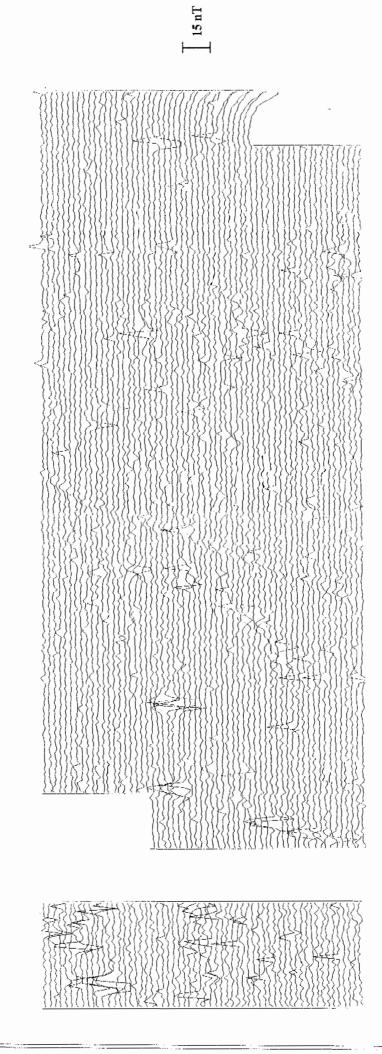




M11 WIDENING JUNCTIONS 8-9 Parsonage Farm Trading Estate, Stansted Area A

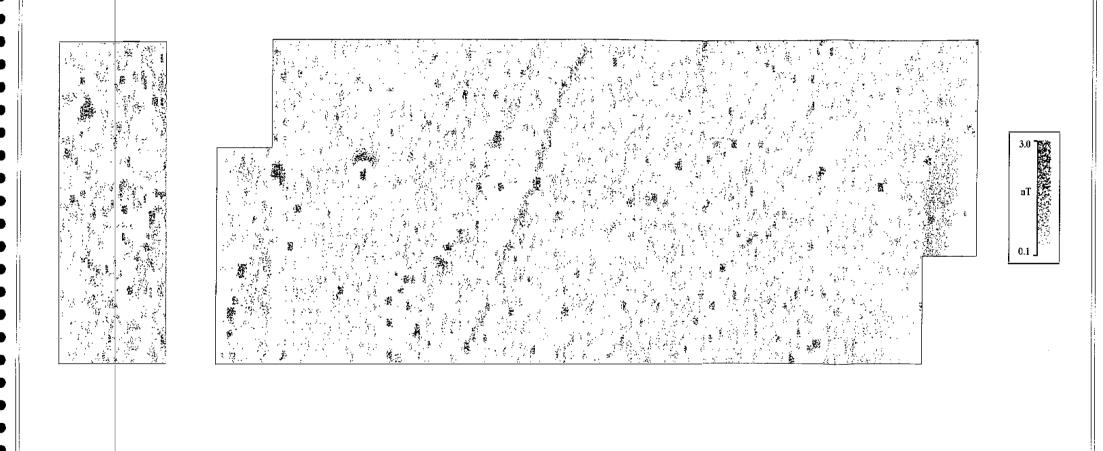


Parsonage Farm Trading Estate, Stansted M11 WIDENING JUNCTIONS 8-9 Area B





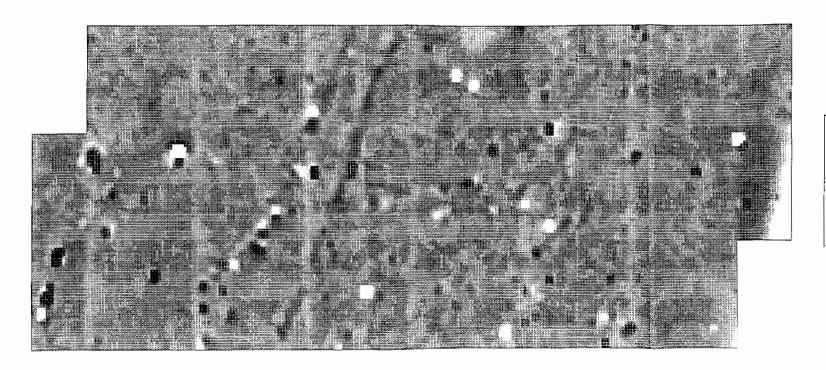
M11 WIDENING JUNCTIONS 8-9 Parsonage Farm Trading Estate, Stansted Area B





M11 WIDENING JUNCTIONS 8-9 Parsonage Farm Trading Estate, Stansted Area B







M11 WIDENING JUNCTIONS 8-9 Parsonage Farm Trading Estate, Stansted Area B

