

ARCHAEOLOGICAL
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**Land adjacent to Score Ray Lane and Thorpe Green Lane
Thorpe Underwood
North Yorkshire**

Geophysical Survey

November 2004

Report No. 1315



CLIENT
North Yorkshire County Council
Environmental Services

Land adjacent to Score Ray Lane and Thorpe Green Lane

Thorpe Underwood

North Yorkshire

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Summary

A geophysical (magnetometer) survey covering approximately 2 hectares was undertaken along the proposed route of a road re-alignment near Thorpe Underwood, North Yorkshire. Several linear anomalies indicative of infilled features have been identified. However, it is not clear whether these anomalies are caused by recently infilled field boundary ditches or archaeological ditches forming part of a much older system of land division and enclosure. Discrete areas of magnetic enhancement might also be indicative of archaeological activity.

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Archaeological Services WYAS

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1. Introduction and Archaeological Background

- 1.1 Archaeological Services WYAS was commissioned by Mr Martin Garner of Mouchel Parkman UK Ltd, on behalf of North Yorkshire County Council, Environmental Services, to carry out a geophysical (magnetometer) survey along the proposed route of the re-alignment of Score Ray Lane/Thorpe Green Lane, approximately 1km south-west of Thorpe Underwood, North Yorkshire (see Fig. 1).
- 1.2 The survey area comprised a corridor approximately 650m in length (from SE 4520 5870 in the west to 4573 5905 in the east) and varying between 20m and 50m in width. The route crossed four fields, variously containing a sprouting cereal crop, stubble and permanent pasture. The fourth field contained pig houses and was unsuitable for survey (see Fig. 2). No other problems were encountered during the fieldwork that was carried out on November 16th and 17th 2004.
- 1.3 Topographically the corridor was relatively flat at about 30m Above Ordnance Datum (AOD). The deep, well-drained, coarse loamy soils are derived from glaciofluvial drift and are classified in the Escrick 2 association. They overlie Namurian millstone grit.
- 1.4 A number of cropmarks, indicative of archaeological features, have been identified in the vicinity of the site during the English Heritage National Mapping Programme Project. These cropmarks are interpreted as representing the remains of enclosures and field systems. However, it is not known whether any of these cropmarks are located within the proposed road corridor.

2. Methodology and Presentation

- 2.1 The primary objective of the geophysical survey was to establish the presence, absence, extent and nature of any archaeological anomalies within the defined road corridor.
- 2.2 The survey methodology and report comply with the recommendations outlined in the English Heritage Guidelines (David 1995) as a minimum standard. All figures reproduced from Ordnance Survey mapping are done so with the permission of the controller of Her Majesty's Stationery Office. © Crown copyright.
- 2.3 A plan, incorporating the 1:50000 Ordnance Survey mapping, locates the site in Figure 1 whilst Figure 2 is a more detailed location plan (at a scale of 1:2500), showing the processed magnetometer data superimposed onto a digital base map provided by the client. Figures 3 to 8 inclusive show the 'raw' and processed data together with interpretation diagrams for the whole corridor at a scale of 1:1250. A larger (1:500) greyscale plot and interpretation has been produced for the eastern end of the corridor (Field 3) to highlight the potential archaeological anomalies.
- 2.4 Technical information on the equipment used, data processing and survey methodologies are given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the archive.

The figures in this report have been produced following analysis of the data in 'raw' and processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

3. Results

3.1 Fields 1 and 2

- 3.1.1 Numerous isolated dipolar anomalies ('iron spikes' - see Appendix 1) have been identified across all parts of the site. These 'iron spike' anomalies are indicative of ferrous objects or other magnetic material in the topsoil/subsoil and, although archaeological artefacts may cause them, they are more often caused by modern cultural debris that has been introduced into the topsoil. There is no apparent clustering to these anomalies, although they are more common in Field 2, and consequently they are not considered to be archaeologically significant. Only the strongest of these responses have been highlighted.
- 3.1.2 Areas of magnetic disturbance can be seen in the data set where the survey area adjoins the road edge. This disturbance is caused by a combination of the proximity of wire-strand fencing and the presence of ferrous debris in the field boundary. Other areas of magnetic disturbance are also present in Field 2 away from the roadside.
- 3.1.3 A series of weak, parallel linear trends can be seen, particularly in the eastern half of the field of Field 1, although they are also present in Field 2. These anomalies, aligned from north-west to south-east and parallel with the extant field boundaries, are caused by recent agricultural activity. A much stronger anomaly on the same alignment in Field 1 could have a similar origin although it could be caused by a recently infilled field boundary or by an archaeological ditch.
- 3.1.4 Several small areas of enhanced magnetic response have also been identified in both fields. Although a recent cause is considered probable archaeological features might also cause the highlighted anomalies.

3.2 Field 3

- 3.2.1 More linear and discrete positive anomalies are identified at the eastern end of the corridor in Field 3 as well as an area of variable magnetic background. Again it is difficult to provide a definitive interpretation but an archaeological origin for any or all of these anomalies is considered possible.

4. Discussion and Conclusions

- 4.1 It is particularly difficult to be confident of the interpretation of anomalies identified within road or pipe corridors due to the narrow width of the survey area and this has proved to be the case in this instance. Although the geophysical survey has identified several linear anomalies along the length of the road corridor it is unclear whether these are due to recent agricultural activity, infilled modern field boundaries or infilled archaeological ditches, particularly as the anomalies are either perpendicular to, or parallel with the

current field boundaries or road layout. It is concluded that the anomalies in Fields 1 and 2 are more likely to be due to recent activity, although examination of the early Ordnance Survey maps has not identified any other boundaries other than those currently extant. In Field 3 the presence of areas of enhancement adjacent to the linear anomalies is considered likely to increase the possibility that these responses are due to underlying archaeological features.

The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by direct investigation of sub-surface deposits.

Bibliography

David, A., 1995. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines* No. 1. English Heritage

Acknowledgements

Project Management

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Fieldwork

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Report

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Graphics

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Appendices

- Appendix 1** Magnetic Survey: Technical Information
- Appendix 2** Survey Location Information
- Appendix 3** Geophysical Archive

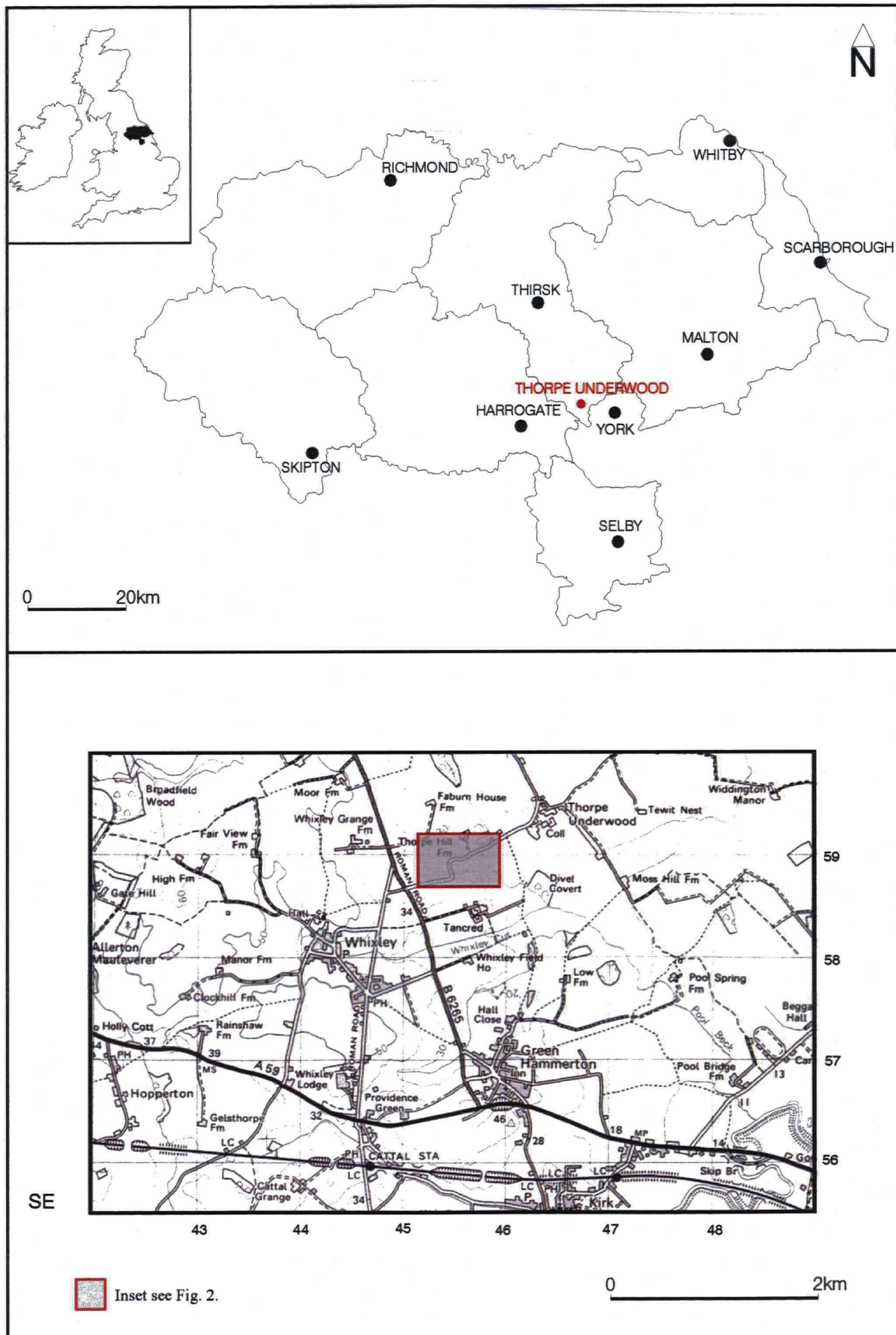


Fig. 1. Site location

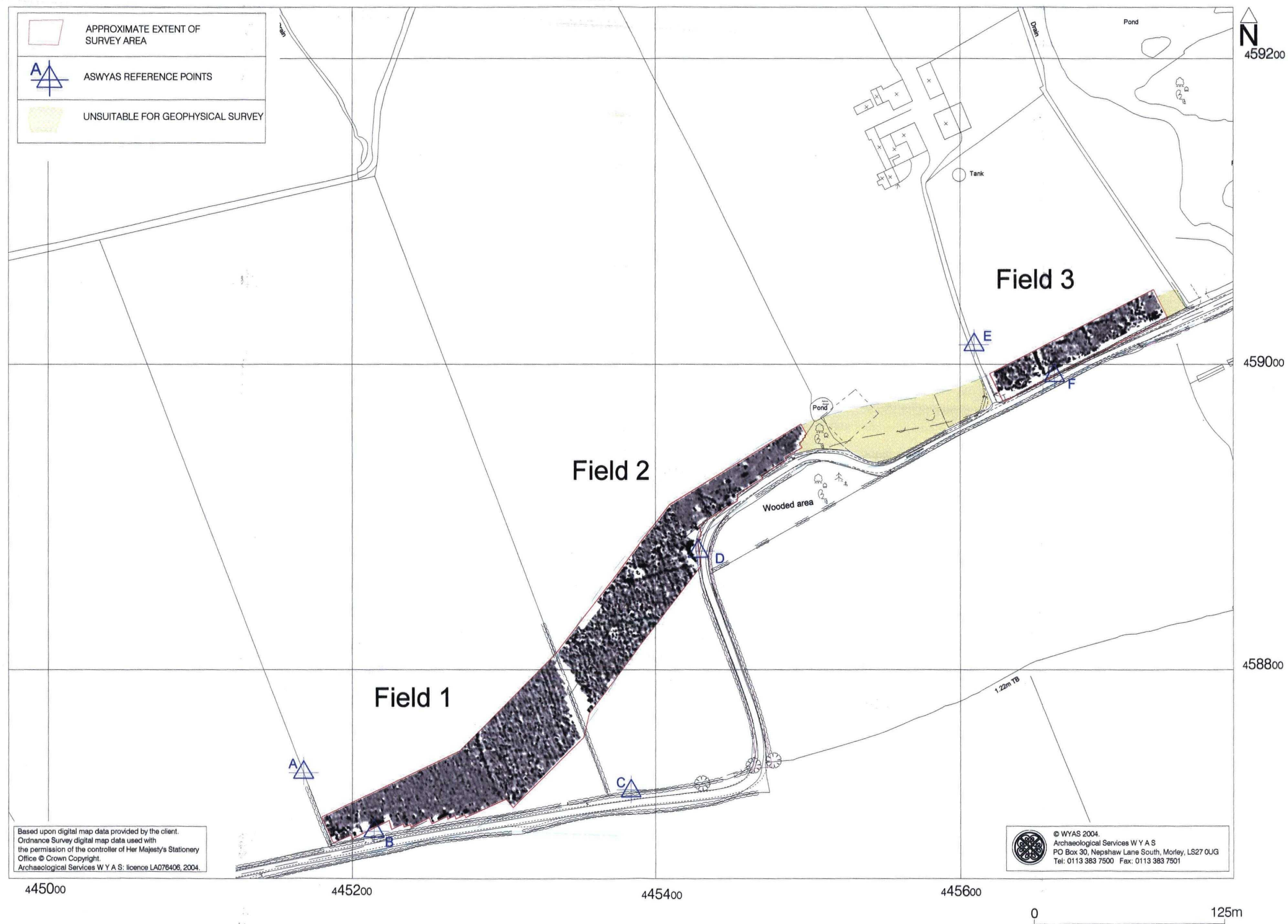


Fig. 2. Site location showing greyscale magnetometer data.

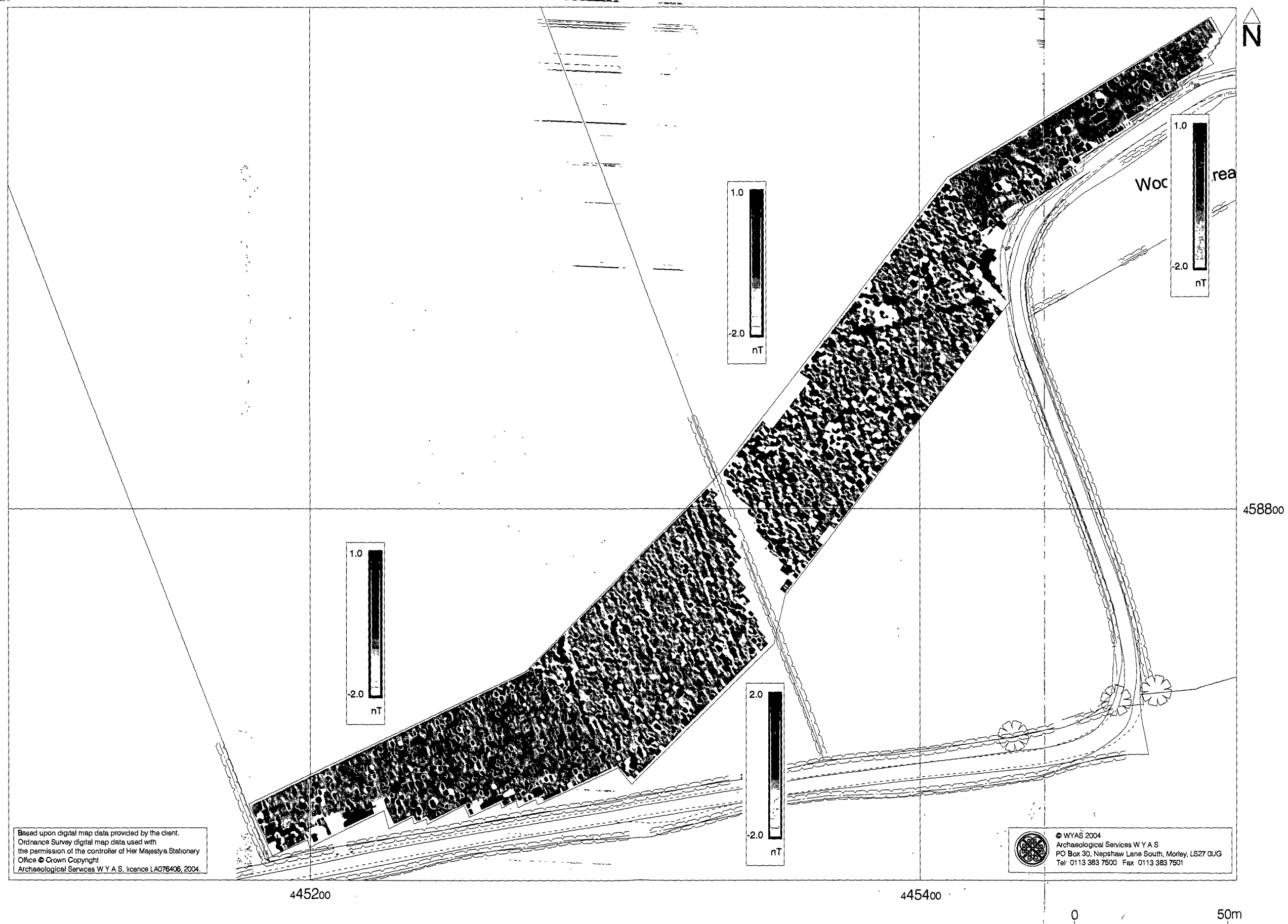


Fig. 3. Site location showing greyscale magnetometer data: Field 1 and 2.



Fig. 4. Interpretation of magnetometer data: Field 1 and 2.

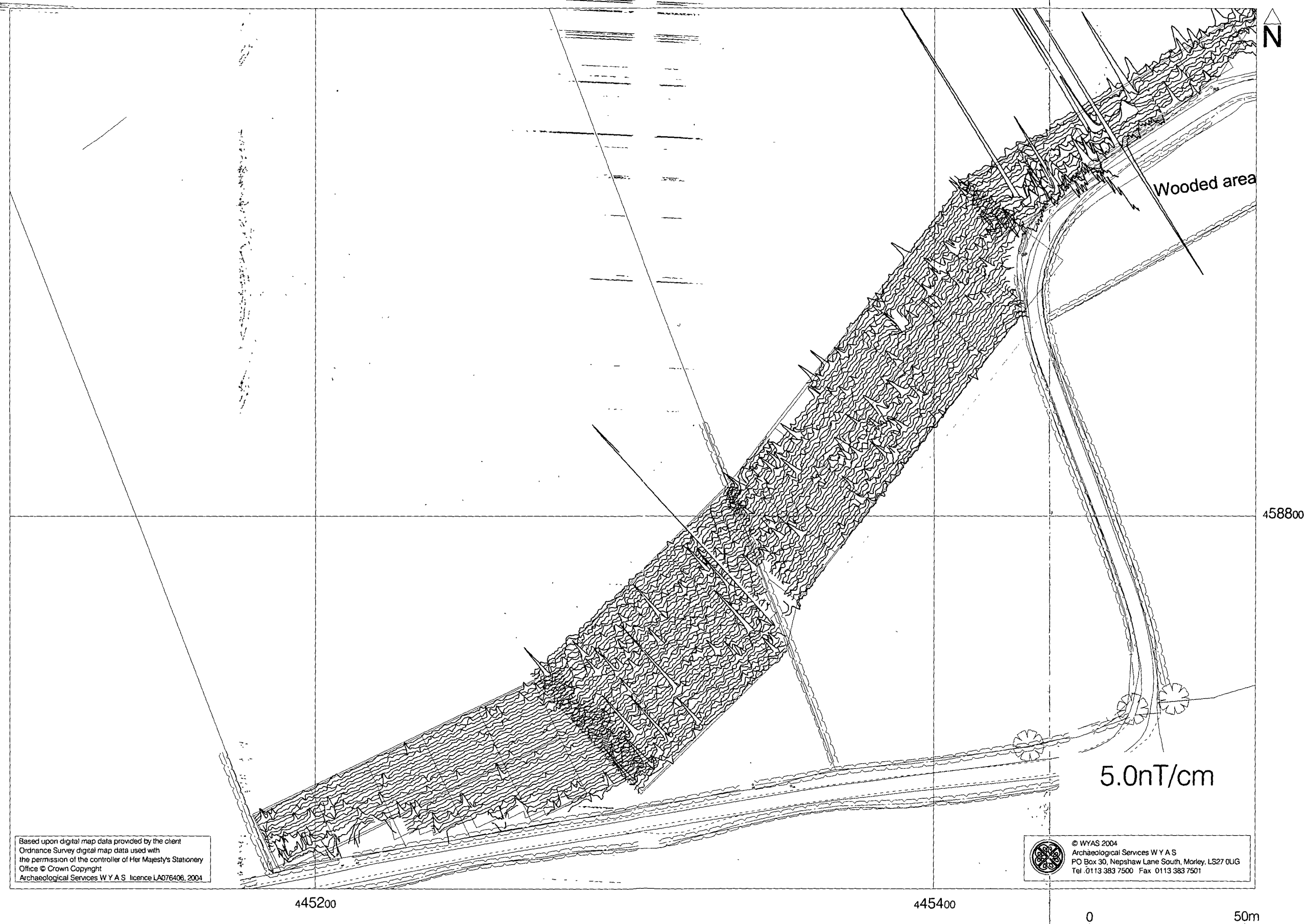


Fig. 5. X-Y trace plot of raw magnetometer data: Field 1 and 2.