Birmingham University Field Archaeology Unit

Project No. 421

May 1996

An Archaeological Evaluation of Land at Hobs Hill, Park Farm, Rugeley, Staffordshire

by

Catharine Mould

with illustrations by Nigel Dodds

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Contents

Figures

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1.0 Summary

An archaeological evaluation was conducted as one part of a Stage 3 Assessment for the proposed Rugeley Eastern Bypass A513-A51 Link, at land immediately south of Hobs Hill, Park Farm, Rugeley, by Birmingham University Field Archaeology Unit in the period 9th-14th May 1996. One area, on the southern side of Hobs Hill, had been identified as having archaeological potential (Wardell Armstrong 1995). However, prior to this evaluation no below-ground archaeological investigations had been conducted within land at Park Farm and the potential for survival of archaeological deposits, their nature and condition, was unknown. A geophysical survey was conducted (Appendix A) and four trial trenches were excavated. A number of linear anomalies highlighted by the geophysical survey were transected by the trial trenches. These were found to be of a modern agricultural, rather than archaeological, origin. No other archaeological deposits or features were recorded and no further archaeological response is anticipated.

2.0 Introduction

This report outlines the results of an archaeological evaluation of land located immediately south of Hobs Hill, Park Farm, Rugeley. The work was undertaken by Birmingham University Field Archaeology Unit on behalf of Sir William Halcrow & Partners Ltd as one part of a Stage 3 Assessment for the proposed Rugeley Eastern Bypass A513-A51 Link. The archaeological evaluation was conducted in accordance with a brief prepared by Staffordshire County Council (Meeson 1996).

3.0 The Site and its Location (Figures 1 and 2)

The proposed Rugeley Eastern Bypass A513-A51 Link will extend from a traffic island on the A513 at Lea Hall to the A51, near Brereton Hill. Its proposed route rises over the edge of Hobs Hill. The archaeological evaluation site (centred on NGR SK 059161), which lies on the southern side of Hobs Hill, to the east of Brereton, was identified following a documentary assessment and walk-over survey conducted by Wardell Armstrong (Wardell Armstrong 1995). In particular, a number of earthworks were identified as having archaeological potential.

4.0 Objective

The objective of this archaeological evaluation was to establish the character, function and date of the earthworks identified by Wardell Armstrong (Wardell Armstrong 1995).

5.0 Method

A geophysical survey was conducted prior to trial trenching. This survey identified two linear anomalies which corresponded with slight earthworks visible on the ground. A number of circular anomalies were also identified (Appendix A). Four trial trenches, located and aligned to transect the earthworks, were excavated. A JCB mechanical excavator was used to remove the turf matting and topsoil. Three of the four trenches were cleaned by hand. The stratigraphic sequences were recorded and contextual information was supplemented by scale drawings, plans, sections and photographs which, together with recovered artefacts, form the site archive. This is presently housed at Birmingham University Field Archaeology Unit.

6.0 The Archaeological Results (Figure 3)

Trench 1
This trench (1.70m x 20m), aligned northeast-southwest, was excavated to a maximum depth of 0.40m below the present turf level. A natural, brown-orange, glacial, clay-sand gravel horizon (1003) was overlain in one area by a 2.40m wide black, humic, rooty deposit (1002). This deposit formed the fill of northwest-southeast aligned feature (F100). In the remainder of the trench, 1003 was sealed by a slightly undulating, mixed and rooty, clay-sand layer (1001), which also overlay 1002. Context 1001 was, in turn, sealed by topsoil and turf matting (1000).

Trench 2
Trench 2 (1.70m x 25m), aligned east-west, was excavated to a maximum depth of 0.45m below the present turf level. A natural, brown-orange, glacial, clay-sand gravel horizon (2003) was overlain by a mixed and rooty clay-sand layer (2002). In the northeastern 3m of the trench, Context 2002 was overlain by a black humic layer (2001). This layer, and the remainder of 2002, was sealed by a slightly undulating layer of topsoil and turf matting (2000).

Trench 3
This trench (1.70m x 15m) was aligned northeast-southwest. A mottled grey-yellow natural clay-sand (3003) was contacted at 0.40m below the present turf level. This had been disturbed by an irregular, shallow, scoop (F300), which was filled with grey-brown clay-sand (3005). Two similar scoops (represented by 3002 and 3004), one on either side of F300, were also recorded in section. A slightly undulating, brown silt-sand deposit (3001) sealed the scoops and was itself overlain by the turf matting (3000).

Trench 4 (Not illustrated)
Trench 4 (1.70m x 20m), aligned northwest-southeast, was mechanically excavated to a maximum depth of 0.70m. A "sandstone red", natural, clay-sand gravel horizon (4001) was directly overlain by topsoil and turf matting (4000).

7.0 The Artefacts

One sherd of pottery was recovered from Context 1002, Trench 1. Three pottery sherds and three brick/tile fragments were recovered from Context 2002, Trench 2. All of these artefacts are of modern origin.

8.0 A Discussion of the Geophysical and Trial Trenching Results

The natural subsoil was contacted in all four trial trenches, within 0.40m of the present turf level. This horizon had been disturbed in only two trenches. In Trench 1 by F100, here interpreted as a modern hedgerow due to the large decaying roots and humic soil matrix, and in Trench 3 by a row of three shallow scoops (F300, 3002 and 3004) which are interpreted as tree root holes.

An undulating layer of soil, recorded in Trenches 1, 2 and 3 (1001, 2000 and 3001) corresponded with the slight earthworks visible at ground level. No artefacts were recovered from these contexts, neither were the hedgerow and tree-line represented on historic maps reviewed by the Wardell Armstrong Report (Wardell Armstrong 1995, Figures 1-5). This in itself is not conclusive evidence for a modern origin; however, the limited number of artefacts recovered from lower contexts does suggest a modern date for the hedgerow, tree-line and earthworks.

The contexts and features identified during this evaluation suggest that the earthworks to the south of Hobs Hill form one part of a modern agricultural landscape and that they are not of archaeological significance.

9.0 An Assessment of the Archaeological Importance of the Site at Hobs Hill, Park Farm, Rugeley

Prior to the commencement of this evaluation no below-ground archaeological investigations had taken place at Hobs Hill, Park Farm, Rugeley and the potential for the survival of archaeological deposits, their nature and condition, was unknown. An assessment of the Cultural Heritage along the line of the proposed Rugeley Eastern Bypass A513-A51 Link identified a number of linear earthworks which may have been of archaeological interest. These earthworks were subsequently recorded by geophysical survey. Trial trenching across the earthworks suggests a modern agricultural, rather than archaeological, origin. No other archaeological deposits, features or artefacts were recorded.

In summary, the site at Hobs Hill, Park Farm, Rugeley is not considered to be archaeologically significant and the proposed route for the Rugeley Eastern Bypass will not have any archaeological impact upon the site.

10.0 References

Geophysical Surveys of Bradford 1996 *Report on Geophysical Survey. Rugeley Eastern Bypass.* Survey No: 96/47 (reproduced here as Appendix A).

Meeson, B. 1996 *Rugeley Eastern Bypass A513 to A51 Link. Brief and Schedule for Archaeological Site Evaluation.*

Wardell Armstrong 1995 *Rugeley Eastern Bypass A513 - A51 Link. Desk-Based Assessment of the Cultural Heritage.*

11.0 Acknowledgements

We are grateful to Mr. M. Nutt of Sir William Halcrow & Partners Ltd., Bob Meeson of Staffordshire County Council and Mr. and Mrs. Lewis of Park Farm for their assistance on-site and to Geophysical Surveys of Bradford for conducting the geophysical survey. The archaeological evaluation was undertaken by Catharine Mould, with the assistance of Derek Moscrop. Iain Ferris edited this report.

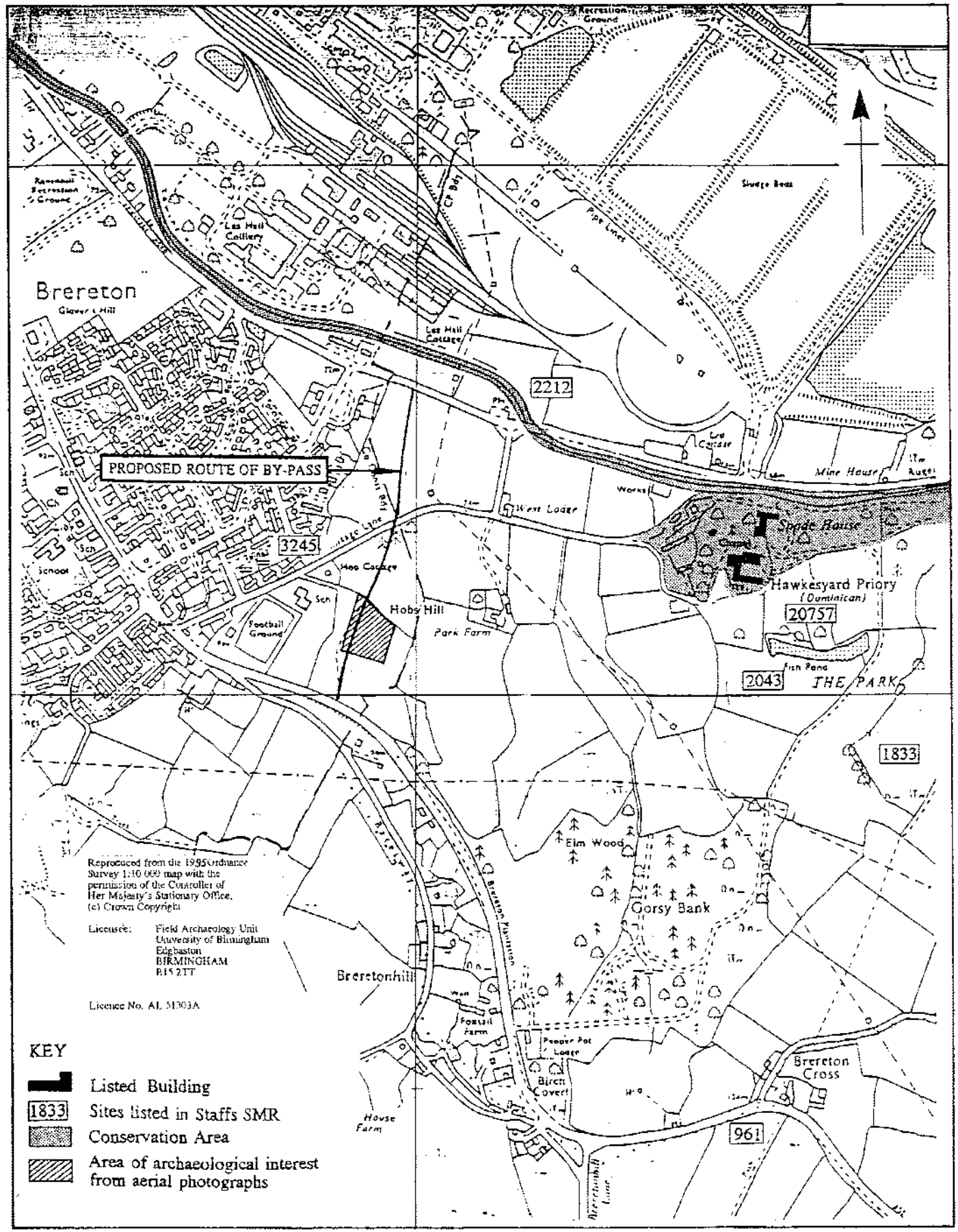
Brereton
PROPOSED ROUTE OF BY-PASS
2212
3245
Hobs Hill
Park Farm
Hawkesyard Priory
(Dominican)
20757
2043
THE PARK
1833
Elm Wood
Gorsy Bank
Brereton Hill
Brereton Cross
961
Reproduced from the 1995 Ordnance Survey 1:10 000 map with the permission of the Controller of Her Majesty's Stationary Office, (c) Crown Copyright
Licensee: Field Archaeology Unit University of Birmingham Edgbaston BIRMINGHAM B15 2TT
Licence No. AL 51303A
KEY
Listed Building
Sites listed in Staffs SMR
Conservation Area
Area of archaeological interest from aerial photographs

Fig.1

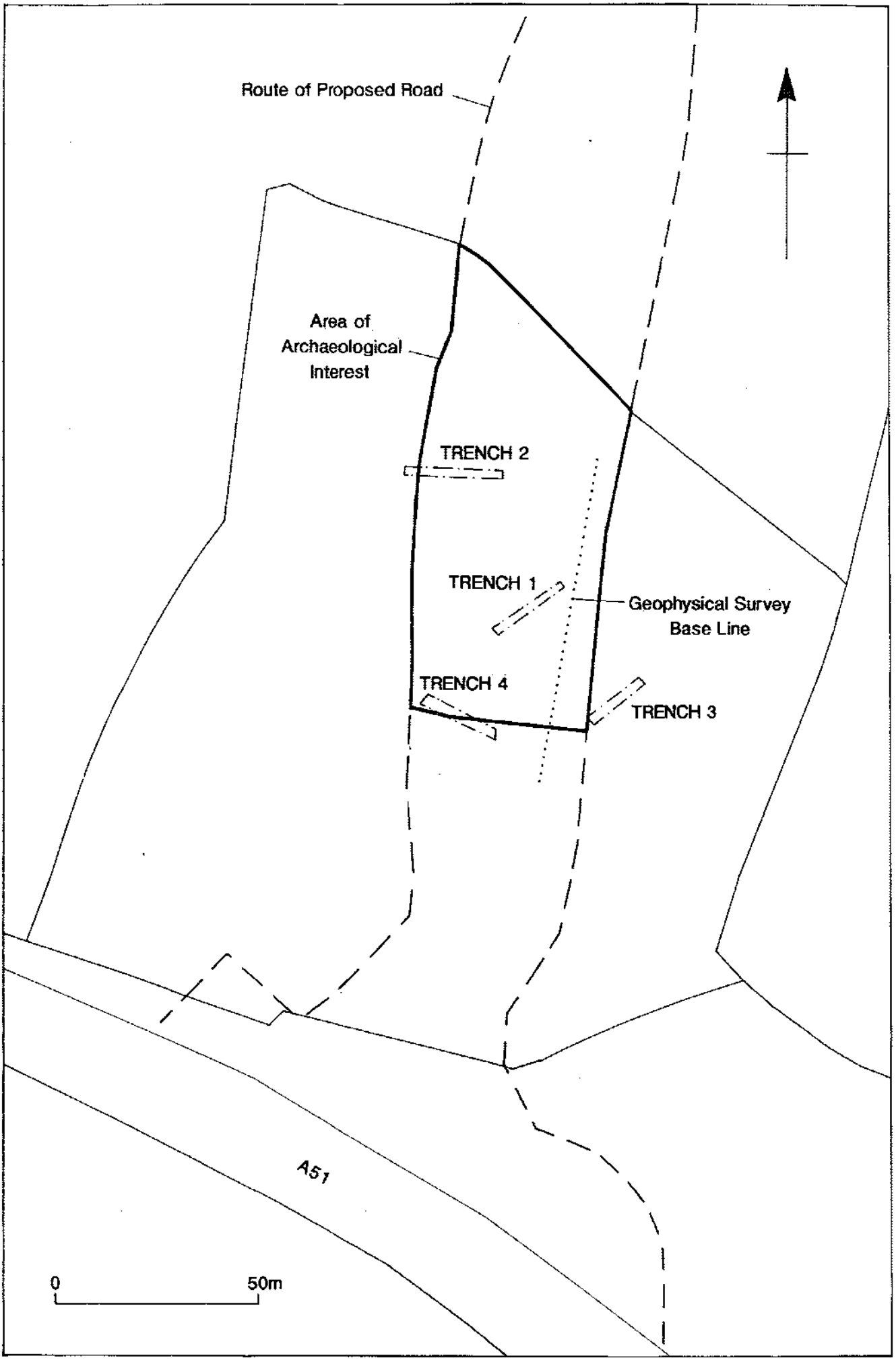
Route of Proposed Road
Area of Archaeological Interest
TRENCH 2
TRENCH 1
Geophysical Survey Base Line
TRENCH 4
TRENCH 3
A51
0
50m

Fig.2

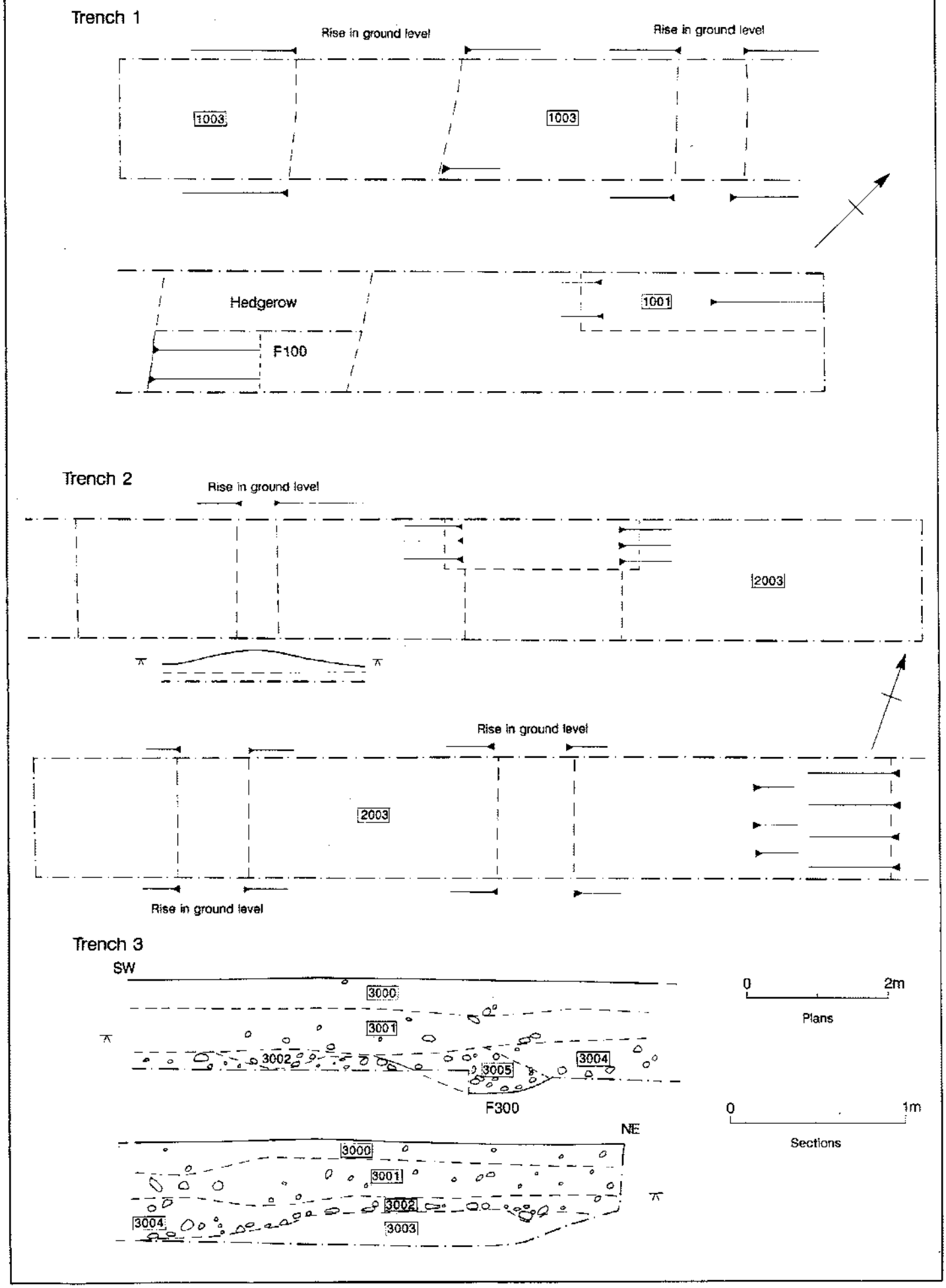
Trench 1
Rise in ground level
Rise in ground level
1003
1003
Hedgerow
F100
1001
Trench 2
Rise in ground level
2003
Rise in ground level
2003
Rise in ground level
Trench 3
SW
3000
3001
3002
3005
3004
F300
NE
3000
3001
3002
3004
3003
0
2m
Plans
0
1m
Sections

Fig.3

APPENDIX A

Report on Geophysical Survey.

Rugeley Eastern Bypass, Survey No: 96/47.

by

Geophysical Surveys of Bradford.

Please note that for Site Summary Sheet paragraph two "Birmingham University Field Archaeology Unit (BUFAU)", please read "Wardell Armstrong" and for Page 2 Section 5.1 "BUFAU", please read "Wardell Armstrong".

REPORT ON GEOPHYSICAL SURVEY

RUGELEY EASTERN BYPASS

Survey No: 96/47

Work Commissioned by:

B.U.F.A.U.

The Old Sunday School,
Kipping Lane,
Thornton,
Bradford,
BD13 3EL
UK
Tel. (01274) 835016
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SITE SUMMARY SHEET

96 / 47 Rugeley Eastern Bypass, Staffordshire

NGR: SK 059 161

Location, topography and geology

The site is situated on a north facing hillside, known as Hobs Hill, overlooking Brereton near Rugeley, Staffordshire. The survey area lies within the corridor of a section of the proposed Rugeley bypass that is intended to join the A513 and A51 roads. The survey area occupies an undulating pasture field. The geology comprises reddish Carboniferous and Permo-Triassic sandstone. The soils are well drained sandy and coarse loams characteristic on the Bridgnorth (551a) association.

Archaeology#

No information regarding the archaeology of the site is available in the County Sites and Monuments Record or the Couty Records Office. A walkover survey and a study of aerial photographic evidence was carried out by **Birmingham University Field Archaeology Unit (BUFAU)**. A group of denuded earthworks was identified on Hobs Hill that may possibly relate to a defensive enclosure.

Aims of Survey

A fluxgate gradiometer survey was undertaken as part of an archaeological assessment being carried out by **BUFAU** in advance of a proposed bypass. The aim of the survey was to locate and determine the extent of any possible archaeological remains that may survive within the road corridor area.

Summary of Results *

The gradiometer survey recorded a number of pit and intermittent ditch type anomalies. There is no pattern in the results to indicate that these responses are due to the presence of archaeological features relating to an enclosure. The undulating ground surface, possible soil variations, ferrous disturbance or agricultural practises may account for some of the anomalies detected by the gradiometer. Consequently, the significance of the archaeological type responses will remain uncertain without further investigation.

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

Information obtained from: Birmingham University Field Archaeology Unit.

SURVEY RESULTS

96 / 47 Rugeley Eastern Bypass, Staffordshire

1. Survey Area

1.1 An area of 0.5ha was investigated by fluxgate gradiometer survey. Figure 1 shows the position of the survey area in relation to the proposed road line at a scale of 1:1250.

1.2 The survey grid was set out by **Geophysical Surveys of Bradford** and detailed tie-in information has been lodged with the client.

2. Display

2.1 The results are displayed as an X-Y trace, a dot density plot and a grey scale image. These display formats are discussed in the *Technical Information* section, at the end of the text.

2.2 Figures 2 to 4 are data plots and interpretation diagrams of the survey results, produced at a scale of 1:500. A list of figures precedes the diagram section of the report.

2.3 Letters in parentheses in the text relate to individual anomalies highlighted on the interpretation diagram.

3. General Considerations - Complicating factors

3.1 The site was ideal for gradiometer survey; the field was under a short grass cover and there were no obstructions.

3.2 The well drained sandy soils are likely to overlie near surface bedrock, though deeper pockets of soil may also be present. This soil type would tend to give moderate to quiet gradiometry responses. However, subsurface soil variations might produce anomalies that appear to be archaeological in character, thus complicating interpretation of the data.

4. Results of Survey

4.1 The site was found to be magnetically quiet, except for a series of small scale responses detected throughout the survey area. These responses are probably due to ferrous objects in the topsoil and are likely to be modern in origin. Stronger ferrous disturbance was recorded along the northern edges of the survey area due to the close proximity of a wire fence.

4.2 The interpretation diagram, Figure 4, indicates several anomalies that may be archaeological in origin. These mainly consist of magnetically weak, intermittent linear anomalies, generally orientated northwest to southeast. It is possible that some of these ditch type responses relate to the remains of field systems. However, their interpretation remains in doubt because the undulating nature of the site, the prevailing soil conditions (described in Section 3.3 above) and recent agricultural practises may also be expected to produce such responses.

4.3 Anomalies (A) are a group of three possible pit type anomalies among several similar responses identified during the survey. By comparison with the linear responses described above (Section 4.2), anomalies (A), are magnetically stronger and more clearly defined and, therefore, are of greater potential archaeological interest. They may relate to settlement remains, though, as with the ditch anomalies, the lack of an archaeological context in which to place these responses results in an inconclusive interpretation. The gradiometer survey has recorded a dense concentration of ferrous debris. It is therefore possible that the pit type anomalies relate to debris or recent localised magnetic enhancement (i.e. recent burning) or ground disturbance.

5. Conclusions

5.1 The fluxgate gradiometer survey detected several magnetically weak pit and ditch type anomalies that may relate to possible defensive earthworks identified by **BUFAU**. However, it is possible that the undulating ground surface, soil variations and modern disturbance may be responsible for some of the anomalies detected by the gradiometer. The precise origin for these anomalies is unclear and will remain so without further investigation.

Project Co-ordinator: D Shiel
Project Assistants: N Lambert, A Shields & C Stephens.

Date of Survey: 8th May 1996
Date of Report: 18th May 1996

TECHNICAL INFORMATION

The following is a description of the equipment and display formats used in **GEOPHYSICAL SURVEYS OF BRADFORD** reports. It should be emphasised that whilst all of the display options are regularly used, the diagrams produced in the final reports are the most suitable to illustrate the data from each site. The choice of diagrams results from the experience and knowledge of the staff of **GEOPHYSICAL SURVEYS OF BRADFORD.**

All survey reports are prepared and submitted on the basis that whilst they are based on a thorough survey of the site, no responsibility is accepted for any errors or omissions.

Magnetic readings are logged at 0.5m intervals along one axis in 1m traverses giving 800 readings per 20m x 20m grid, unless otherwise stated. Resistance readings are logged at 1m intervals giving 400 readings per 20m x 20m grid. The data are then transferred to portable computers and stored on 3.5" floppy discs. Field plots are produced on a portable Hewlett Packard Thinkjet. Further processing is carried out back at base on computers linked to appropriate printers and plotters.

Instrumentation

(a) Fluxgate Gradiometer - Geoscan FM36

This instrument comprises of two fluxgates mounted vertically apart, at a distance of 500mm. The gradiometer is carried by hand, with the bottom sensor approximately 100-300mm from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is conventionally measured in nanoTesla (nT) or gamma. The fluxgate gradiometer suppresses any diurnal or regional effects. Generally features up to one metre deep may be detected by this method.

(b) Resistance Meter - Geoscan RM4 or RM15

This measures the electrical resistance of the earth, using a system of four electrodes (two current and two potential.) Depending on the arrangement of these electrodes an exact measurement of a specific volume of earth may be acquired. This resistance value may then be used to calculate the earth resistivity. The "Twin Probe" arrangement involves the paring of electrodes (one current and one potential) with one pair remaining in a fixed position, whilst the other measures the resistance variations across a fixed grid. The resistance is measured in Ohms and the calculated resistivity is in Ohm-metres. The resistance method as used for area survey has a depth resolution of approximately 0.75m, although the nature of the overburden and underlying geology will cause variations in this generality. The technique can be adapted to sample greater depths of earth and can therefore be used to produce vertical "pseudo sections".

(c) Magnetic Susceptibility

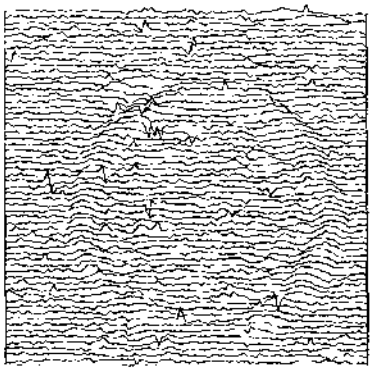
Variations in the magnetic susceptibility of subsoils and topsoils occur naturally, but greater enhanced susceptibility can also be a product of increased human/anthropogenic activity. This phenomenon of susceptibility enhancement can therefore be used to provide information about the "level of archaeological activity" associated with a site. It can also be used in a predictive manner to ascertain the suitability of a site for a magnetic survey. The instrument employed for measuring this phenomenon is either a field coil or a laboratory based susceptibility bridge. For the latter 50g soil samples are collected in the field.

Display Options

The following is a description of the display options used. Unless specifically mentioned in the text, it may be assumed that no filtering or smoothing has been used to enhance the data. For any particular report a limited number of display modes may be used.

(a) Dot-Density

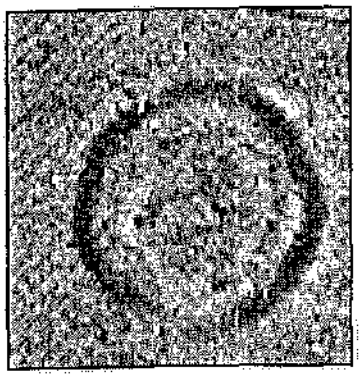
In this display, minimum and maximum cut-off levels are chosen. Any value that is below the minimum cut-off value will appear white, whilst any value above the maximum cut-off value will appear black. Any value that lies between these two cut-off levels will have a specified number of dots depending on the relative position between the two levels. The focus of the display may be changed using different levels and a contrast factor (C.F.). Usually the C.F. = 1, producing a linear scale between the cut-off levels. Assessing a lower than normal reading involves the use of an inverse plot, This plot simply reverses the minimum and maximum values, resulting in the lower values being presented by more dots. In either representation, each reading is allocated a unique area dependent on its position on the survey grid, within which numbers of dots are randomly placed. The main limitation of this display method is that multiple plots have to be produced in order to view the whole range of the data. It is also difficult to gauge the true strength of any anomaly without looking at the raw data values. This display is much favoured for producing plans of sites, where positioning of the anomalies and features is important.



(b) X-Y Plot

This involves a line representation of the data. Each successive row of data is equally incremented in the Y axis, to produce a stacked profile effect. This display may incorporate a hidden-line removal algorithm, which blocks out lines behind the major peaks and can aid interpretation. Advantages of this type of display are that it allows the full range of the data to be viewed and shows the shape of the indiviual anomalies. Results are produced on a flatbed plotter.

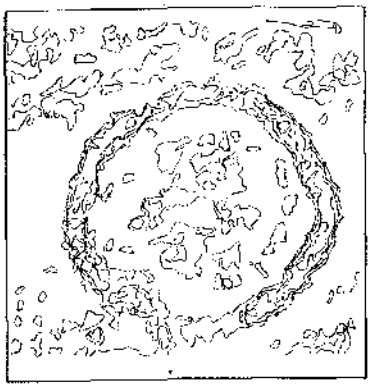
Display Options cont'd



(c) Grey-Scale

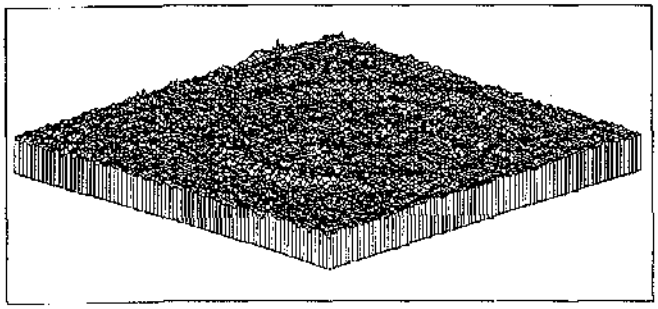
This format divides a given range of readings into a set number of classes. These classes have a predefined arrangement of dots or shade of grey, the intensity increasing with value. This gives an appearance of a toned or grey scale.

Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. While colour plots can look impressive and can be used to highlight certain anomalies, grey-scales tend to be more informative.



(d) Contour

This display format is commonly used in cartographic displays. Data points of equal value are joined by a contour line. Closely packed contours indicate a sharp gradient. The contours therefore highlight an anomalous region. The range of contours and contour interval are selected manually and the display is then generated on the computer screen or plotted directly on a flat bed plotter / inkjet printer.

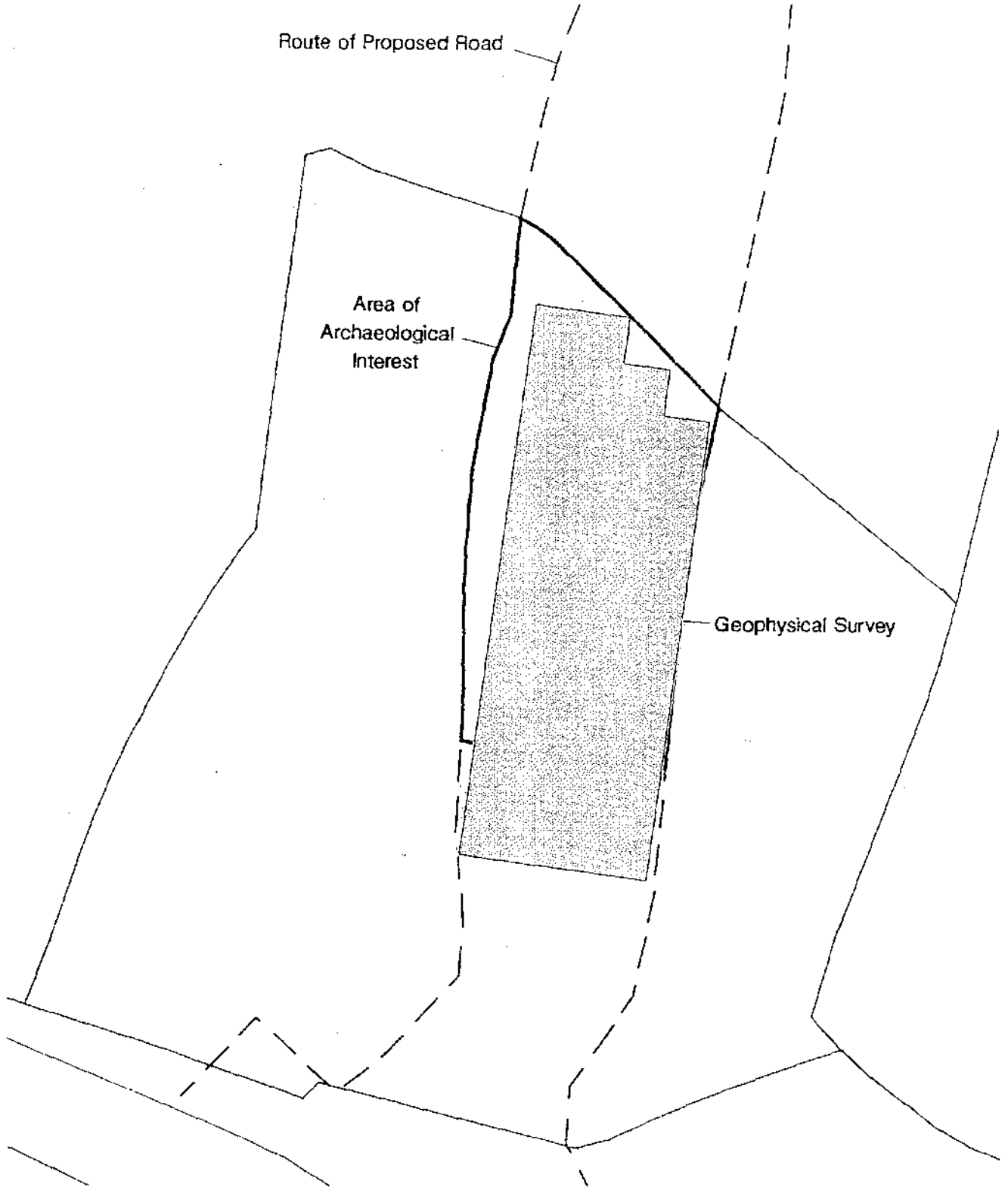


(e) 3-D Mesh

This display joins the data values in both the X and Y axis. The display may be changed by altering the horizontal viewing angle and the angle above the plane. The output may be either colour or black and white. A hidden line option is occasionally used (see (b) above).

List of Figures

RUGELEY EASTERN BYPASS
Location of Survey Area



Based on plan supplied by
BUFAU

1:1250

Figure 1

RUGELEY EASTERN BYPASS

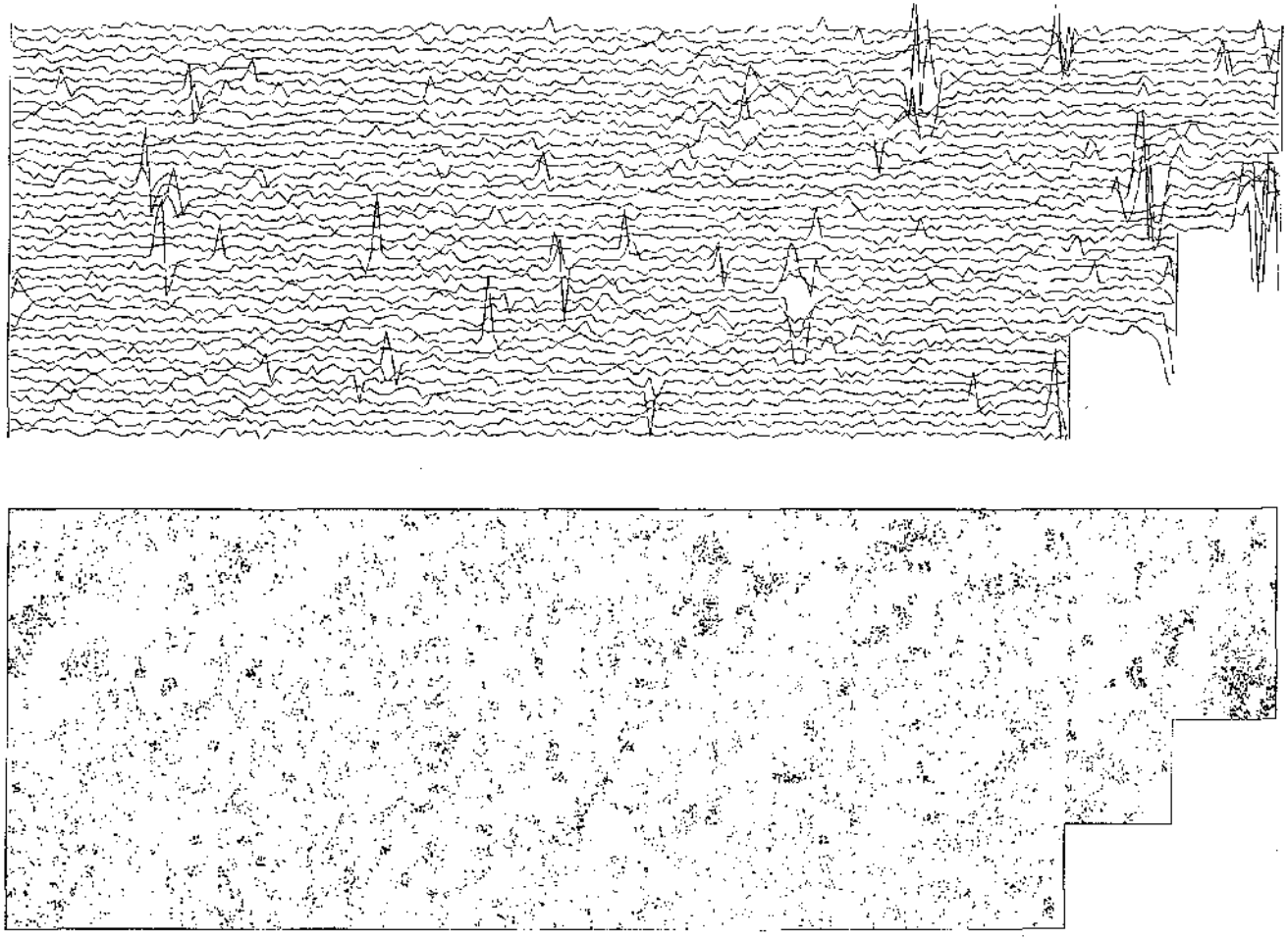
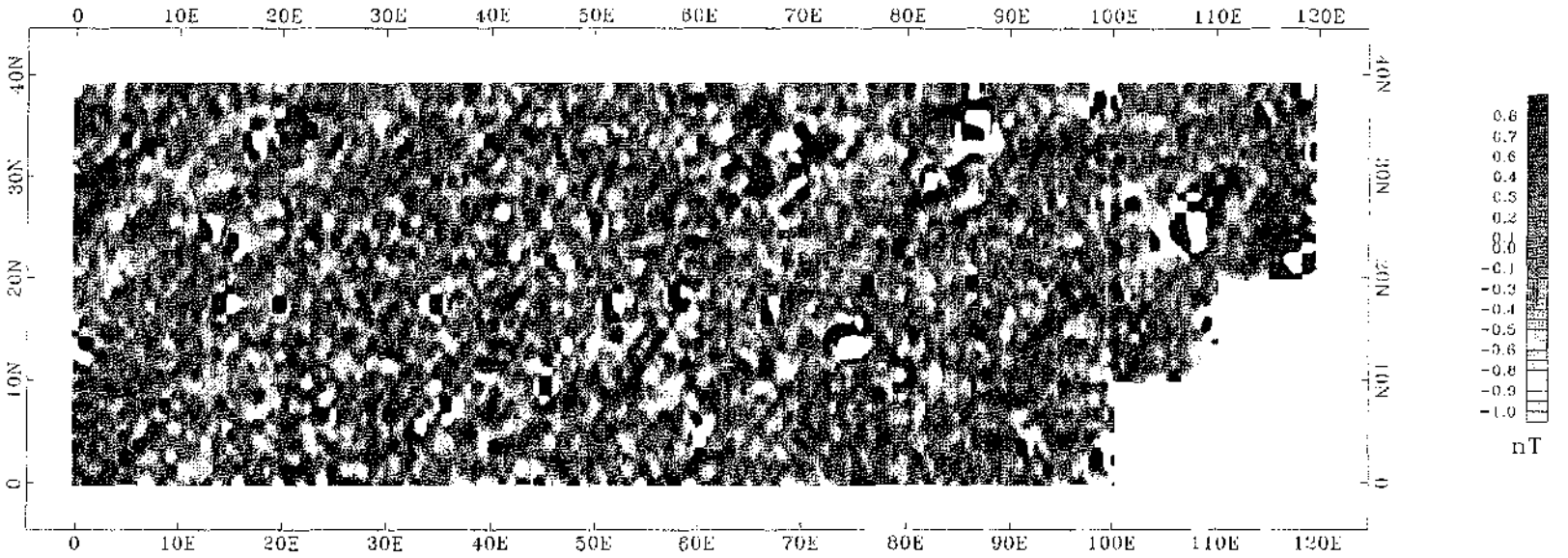


Figure 2



RUGELEY EASTERN BYPASS

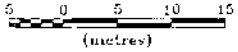


Figure 3

GEOPHYSICAL SURVEYS OF BRADFORD	PROJECT: RUGELEY EASTERN BYPASS	TITLE: Interpretation Diagram

?Archaeology

Ferrous

0 metres 20

Figure 4