

Land at Rudham Stile Lane

Fakenham

Norfolk

Geophysical Survey

Report no. 2867 May 2016

Client: CgMs Limited





Land at Rudham Stile Lane, Fakenham, Norfolk

Geophysical Survey

Summary

A cart-based geophysical (magnetometer) survey, covering approximately 46 hectares, was carried out on agricultural land at Rudham Stile Lane, Fakenham, Norfolk. The survey was undertaken within a proposed development area which lies in close proximity to a number of HER monument records from prehistoric to post-medieval periods. A ring ditch was identified in the western area of the site with a second smaller circular feature in the south central area. Features relating to post-medieval brick production were identified in the form of clay extraction pits and possible kilns. The survey also identified several former field boundaries which are shown on 19th century mapping of the area. The archaeological potential of the proposed development area is identified as low to moderate.



Report Information

Client: CgMs Consulting Limited

Address: Sherwood House, Sherwood Avenue, Newark,

Nottinghamshire, NG24 1QQ

Report Type: Geophysical Survey

Location: Fakenham County: Norfolk

Grid Reference: TF 9244 3086

Period(s) of activity: Prehistoric, post-medieval, modern

Report Number: 2867
Project Number: 6335
Site Code: RSL16

OASIS ID: Archaeol11-252215

Norfolk Event Number: ENF140689

Date of fieldwork: April 2016

Date of report: May 2016

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Authorisation for

distribution: -----



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1 Introduction

Archaeological Services WYAS (ASWYAS) was commissioned by CgMs Consulting Ltd, on behalf of Trinity College, Cambridge (the Client), to undertake a cart-based geophysical (magnetometer) survey of land to the north of Rudham Stile Lane, Fakenham, Norfolk, to inform a proposed planning application. Guidance contained within the National Planning Policy Framework (DCLG 2012) was followed, in line with current best practice (CIfA 2014; David *et al.* 2008) and in accordance with a WSI (ASWYAS 2016) approved by the Senior Historic Environment Officer at Norfolk County Council. The survey was carried out between the 4th and 22nd April 2016 to provide additional information on the archaeological resource of the Proposed Development Area (PDA).

Site location, topography and land-use

The PDA consists of a number of fields totaling approximately 46 hectares, bound by Rudham Stile Lane to the south, the A148 to the north, Water Moor Lane to the west and Thorpland Road to the east (see Fig. 1). The PDA is located on the immediate northern periphery of Fakenham, c.25km northeast of Kings Lynn, c.45km to the northwest of Norwich. Field 1 was under weathered ploughed soil with Field 2 under stubble. Field 3 was drilled, with Fields 4 – 6 under pasture, used for grazing. A rectangular area within Field 3, and a small area to the west of Field 4 were overgrown and therefore unsuitable for survey. Similarly, a small area in the northwest corner of the PDA. The survey area is centred at TF 9244 3086 and at a height above Ordnance Datum (aOD) of approximately 50m and predominantly level.

Soils and geology

The underlying bedrock comprises chalk, overlain by superficial deposits of clay, silt and sands and gravel. The gravel consists of Sheringham Cliffs Formation (BGS 2016), with soils in the area of the Barrow association (581f). These are characterised as well draining coarse loams over clay and sand (SSEW 1983).

2 Archaeological Background

A synopsis of the known archaeological finds within a 1km radius of the site is discussed below, based upon information from an archaeological desk-based assessment (DBA) of the site (Gajos 2015).

Whilst there are no known prehistoric remains within the PDA, a number of findspots and archaeological features are in close proximity to the site. The Norwich Long Lane – a prehistoric trackway - passes through the north-eastern extent of the PDA, following the course of the current A148. Two findspots of prehistoric artefacts (MNF49049 and MNF57556) have been found within a 1km radius.

Two Bronze Age ring ditches (MNF29569) have been identified from cropmarks within 500m of the PDA. It is possible that they are associated with the Norwich Long Lane which extends from Pensthorpe to Burnham Thorpe.

Metal-detecting within the wider landscape has revealed pottery sherds and coins from the Roman epoch (MNF 57556, MNF 11954, MNF 19730).

The Medieval and post-medieval periods are represented in industrial and transport developments with a brick manufacturing (both firing and material extraction) industry in the area, indicated by the name of the farm to the south of Field 2 – Brick Kiln Farm – and part of the Wymondham to Wells railway which was closed in 1964.

3 Aims and Methodology

The main aim of the geophysical survey was to provide sufficient information to enable an assessment to be made of the impact of the development on potential sub-surface archaeological remains and for further evaluation or mitigation proposals, if appropriate, to be recommended. To achieve this aim, a magnetometer survey covering all amenable parts of the PDA was undertaken (see Fig. 2).

The general objectives of the geophysical survey were:

- to provide information about the nature and possible interpretation of any magnetic anomalies identified;
- to therefore determine the presence/absence and extent of any buried archaeological features; and
- to produce a comprehensive site archive and report

Magnetometer survey

The magnetometer survey was undertaken using a Sensys Magneto MXPDA cart-based instrument. The instrument has 5 fluxgate gradiometers spaced 0.5m apart with readings recorded at 20Hz. The gradiometers have a range of recording between 0.1nT and 10,000nT. They are linked to a Trimble R6 RTK dGPS system with data recorded by Sensys Magneto MXPDA software on a rugged PDA device. The data was stored on an SD memory card within the PDA and later downloaded to a computer for processing and interpretation. MAGNETO (Sensys Gmbh) and TerraSurveyor V3.0.25.0 software was used to process and present the data. Further details are given in Appendix 1.

Data processing

The gradiometer data have been presented in this report in greyscale formats. The data in the greyscale images have been interpolated and selectively filtered to remove the effects of drift

in instrument calibration and other artificial data constructs and to maximise the clarity and interpretability of the archaeological anomalies. TerraSurveyor V3.0.25.0 software was used to process and present the data recorded by the cart-mounted system.

Reporting

A general site location plan, incorporating the 1:50000 Ordnance Survey (OS) mapping, is shown in Figure 1. Figure 2 displays processed magnetometer data at a scale of 1:5000. An overall interpretation is displayed in Figure 3 at a scale of 1:5000. The processed data, together with an interpretation of the survey results are presented in Figures 4 to 15 at a scale of 1:1250.

Technical information on the equipment used, data processing and survey methodologies are given in Appendix 1. Technical information on locating the survey area is provided in Appendix 2. Appendix 3 describes the composition and location of the archive. A copy of the completed OASIS form is included in Appendix 4. A repeat track of the data is provided in Appendix 5.

The survey methodology, report and any recommendations comply with guidelines outlined by English Heritage (David *et al.* 2008) and by the Chartered Institute for Archaeologists (CIfA 2014). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

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.

4 Results and Discussion (see Figures 3 to 15)

Summary

Due to the number and intensity of modern ploughing, coupled with the sensitivity of the instrument, clear ploughing trends have not been indicated. This is to prevent the archaeologically unimportant trends obscuring more important features. These features are identified in Field 2 and Field 3 and reflect the cultivation trends.

Ferrous anomalies

Ferrous anomalies, as individual 'spikes', or as large discrete areas are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris or material is common on rural

sites, often being present as a consequence of manuring or tipping/infilling. There is no obvious pattern or clustering to their distribution to suggest anything other than a random background scatter of ferrous debris in the plough-soil.

A linear response of magnetic disturbance, caused by the creation and subsequent dismantling of the Wymondham to Wells railway has been recorded in Field 1, following the course of the old railway bed.

A service pipe runs through Field 3 from the narrow strip of land which protrudes into the field, to the north-east corner of the field. A small service pipe can be seen in Field 5, between the A148 and Laurel Farm poultry complex in the area. The pasture fields in this part of the PDA have notable magnetic responses from fencing, buildings and associated service furniture (ie man-hole covers). Within the pasture fields of Fields 4-6 a number of magnetic responses are caused by interference from metal feeding equipment, nearby structures and fencing.

Geological anomalies

Clay extraction pits for the possible manufacture of bricks have been identified adding to those already known to exist. These occur almost exclusively in Field 2, and can be noted in the landscape, with a mixture of slight and notable depressions.

Smaller discrete low magnitude anomalies have been identified throughout and are thought to be caused by variations in the depth and composition of the soils and the superficial deposits from which they derive.

Agricultural anomalies

Due to the number and intensity of modern ploughing, coupled with the sensitivity of the instrument, clear ploughing trends have not been indicated. This is to prevent the archaeologically unimportant trends obscuring more important features. These features are identified in Field 2 and Field 3 and reflect the cultivation trends.

As a cultivation practice, ploughing disturbs the subsoil causing variations in the magnetic susceptibility of the soil. As the furrows are backfilled, the magnetic signal of the infill differs from that of the surrounding area. These types of anomalies are not considered to be of archaeological interest.

Marginally magnetically stronger linear responses have been recorded across the survey area (marked as Agricultural on the interpretation diagrams), these broadly correlate with former field boundaries identified in the DBA and are shown on the 1844 Tithe and later Ordnance Survey mapping.

Possible archaeological anomalies

Several anomalies consistent with the thermo-remnant magnetic response given by a kiln structure have been identified. They occur in Fields 2 and 3 in close proximity to the clay extraction pits. These probably relate to the known brick manufacture on the site of Brick Kiln poultry farm. A discrete circular anomaly (**B**) of 18m in diameter can been see in Field 3 to the west of the rectangular unsurveyed strip of land however the magnetic responses are very weak in this instance and hence it has been given a possible archaeological interpretation.

Archaeological anomalies

A ring ditch (**A**) has been recorded in Field 2 measuring approximately 31m in diameter. Whilst the magnetic responses are relatively weak against background readings, this small contrast in comparison to the rest of the site is quite clear.

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.

5 Conclusions

Remains of a possible ring ditch have been detected in the northwest of the area and there is the possibility of a further smaller ring ditch between Brick Kiln poultry farm and the rectangular strips within Field 3.

Features relating to known brick manufacture within the PDA are represented by clay extraction pits and possible kiln features. Linear ditches within the data relate to boundaries shown on the historic mapping. The former route of the Wymondham to Wells railway is clear within the southwestern corner of the survey area. Modern ploughing trends can be seen throughout the data and reflect the alignment of the current crop. Therefore the archaeological potential of the site is moderate to low in the western area and low in the eastern area of the PDA.

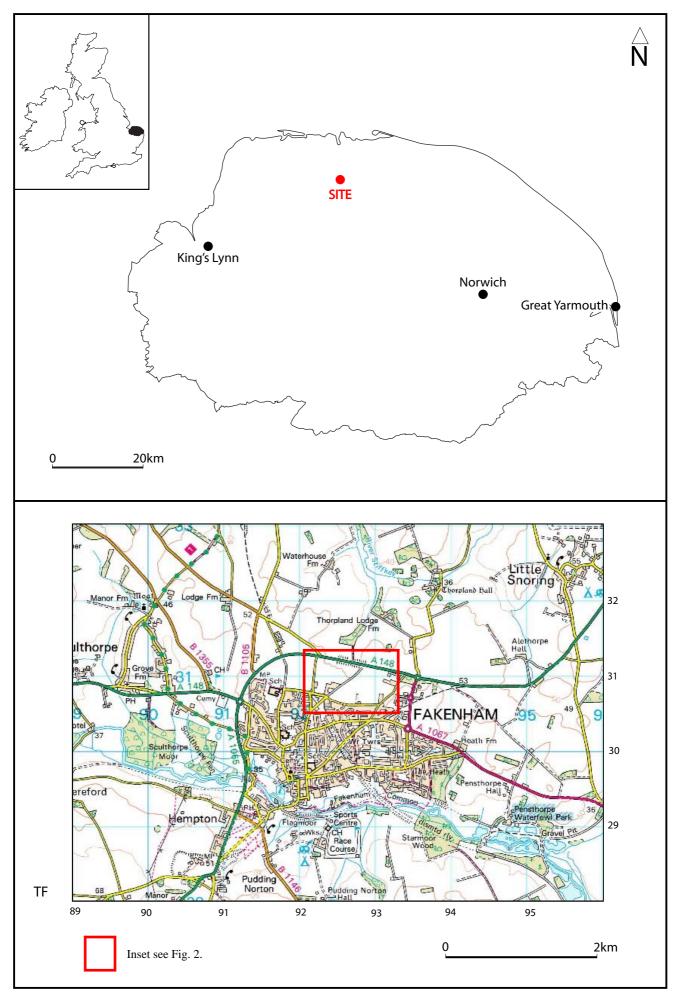
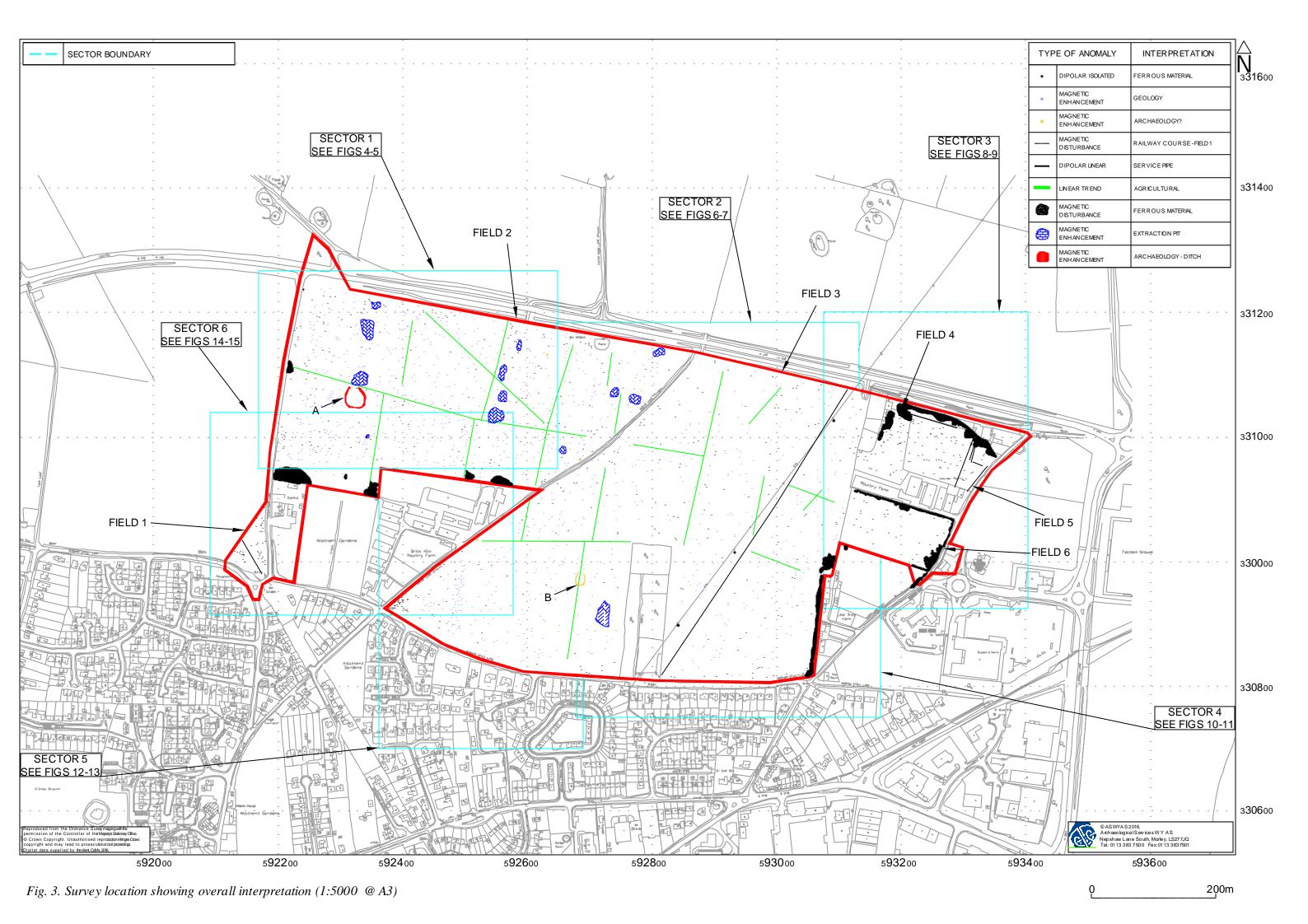
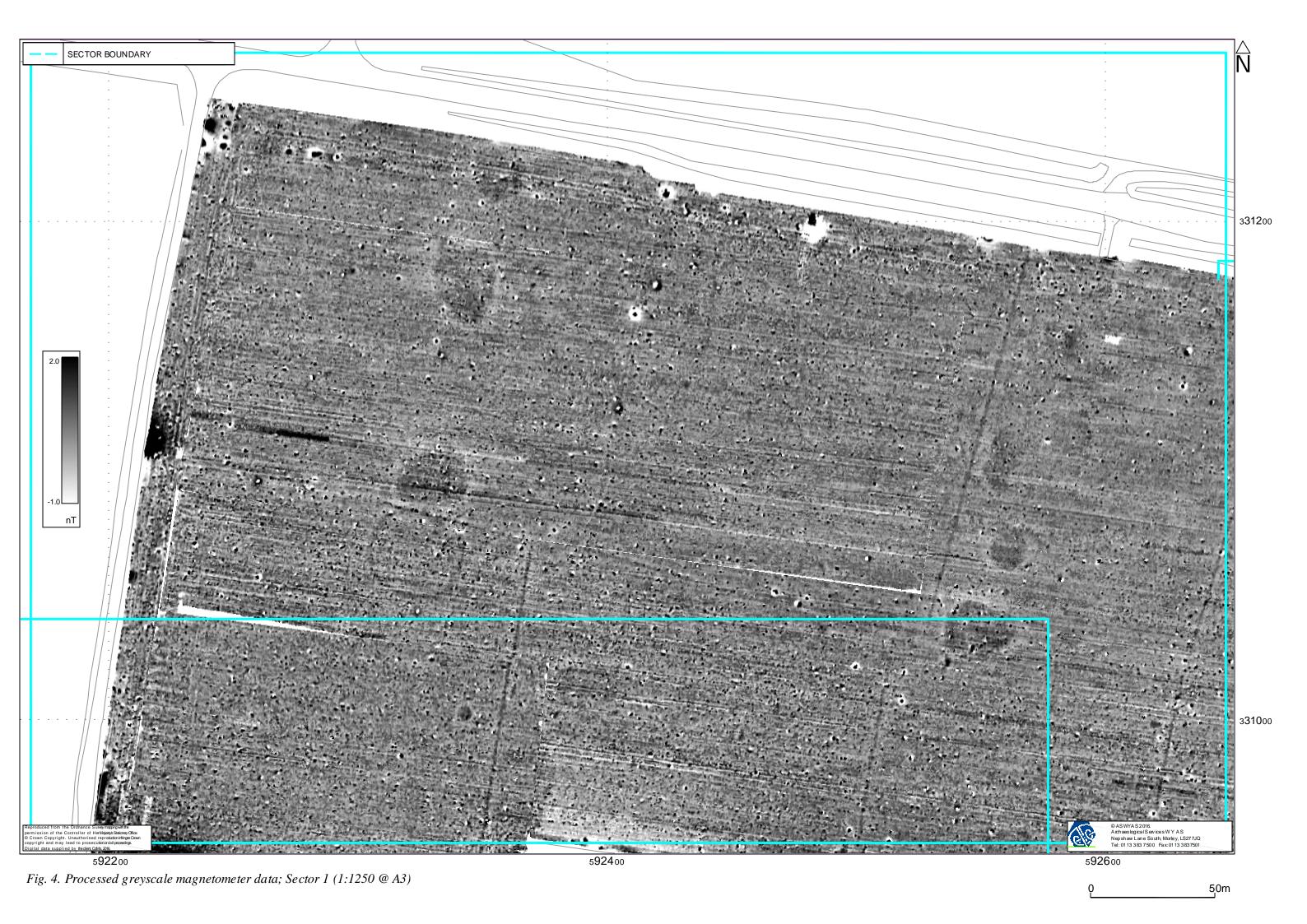


Fig. 1. Site location

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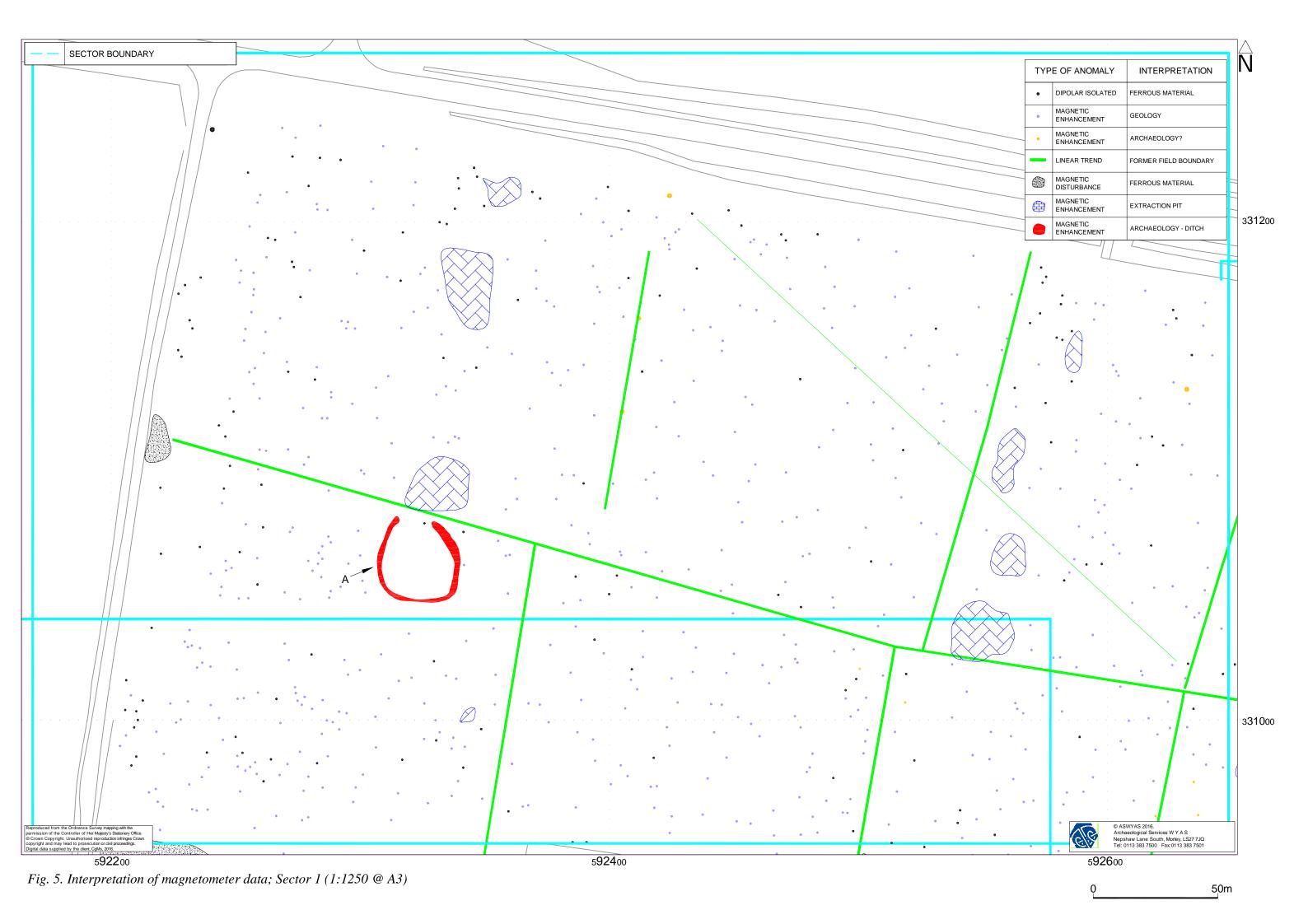
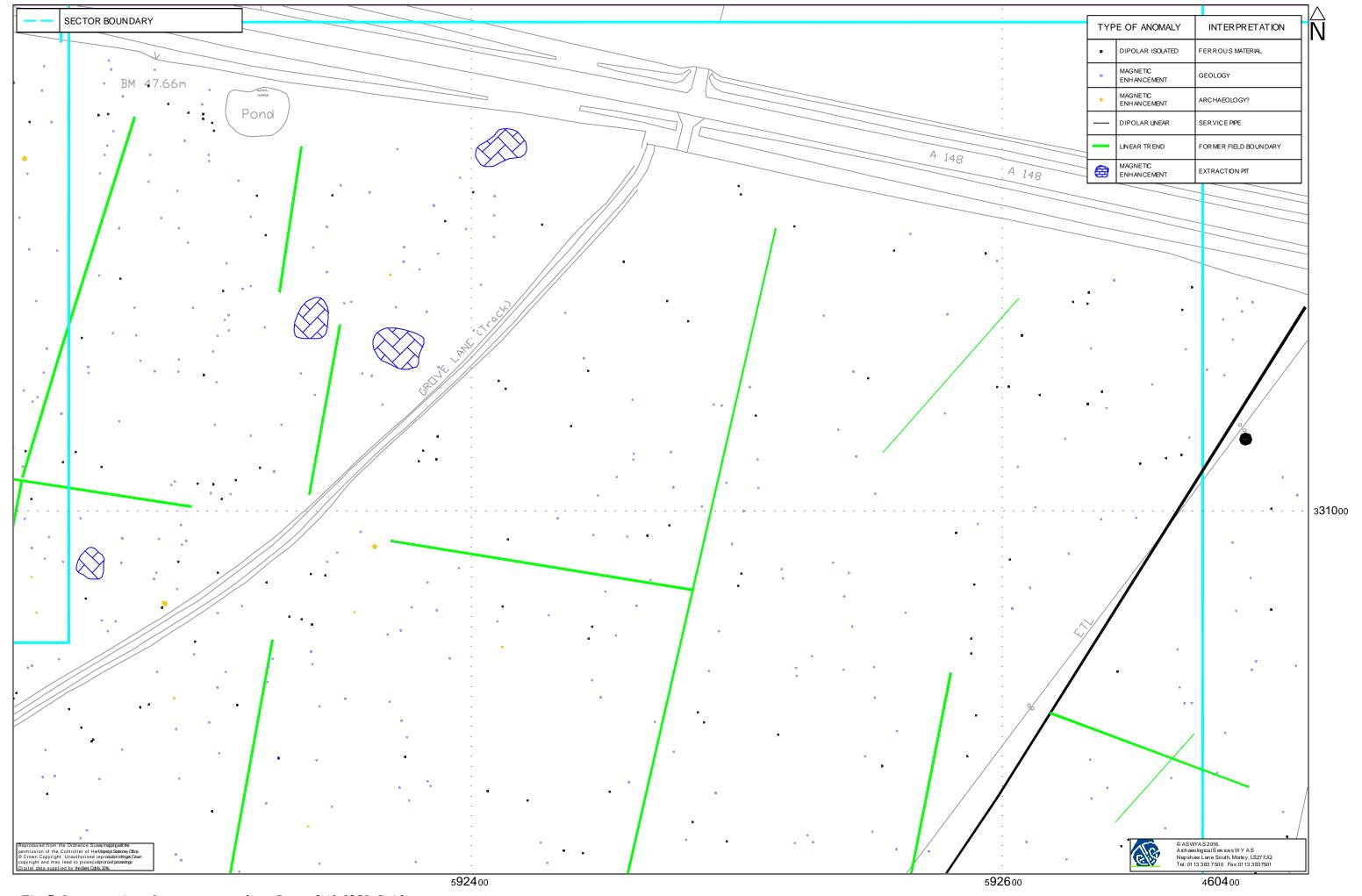


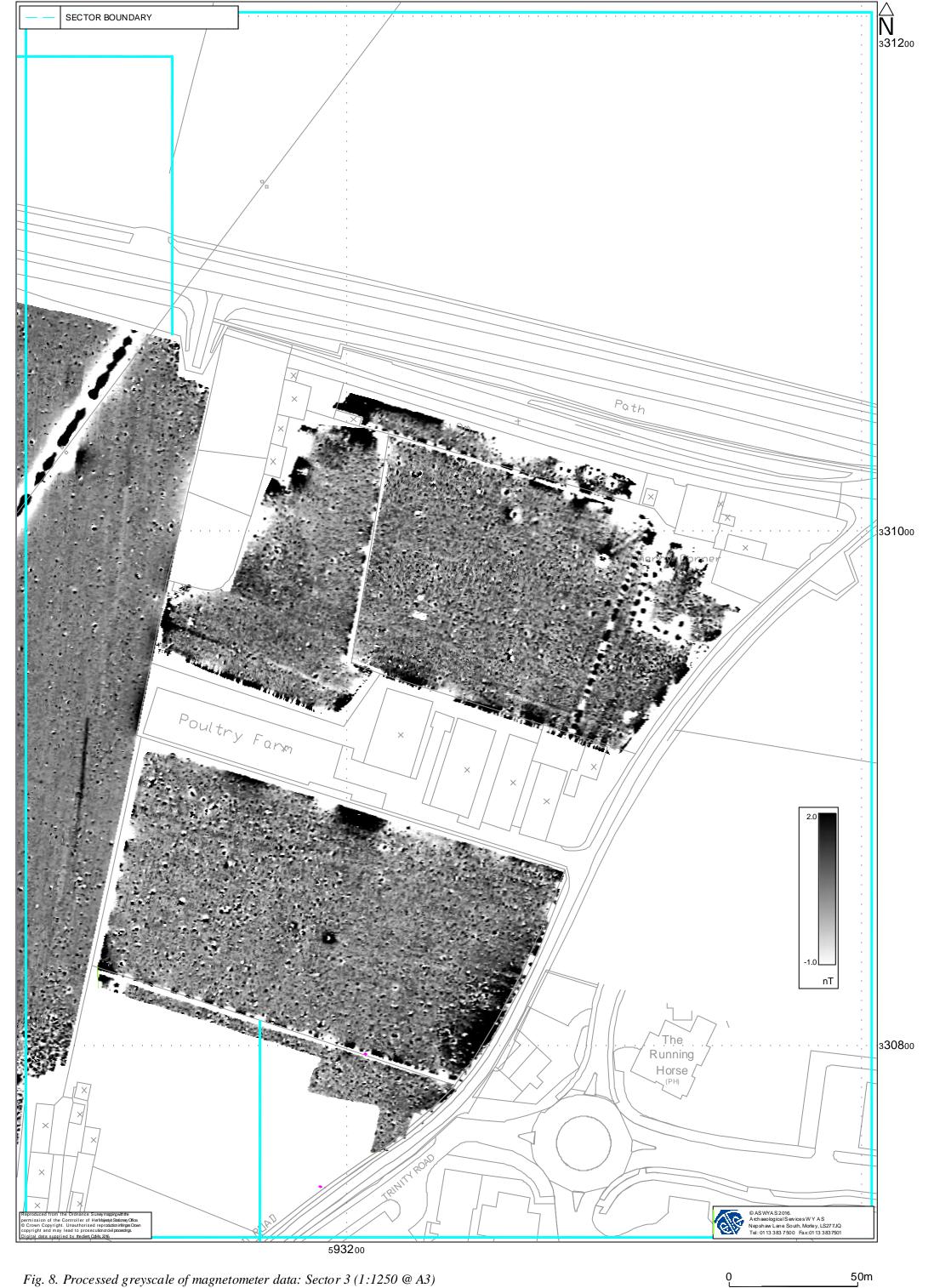


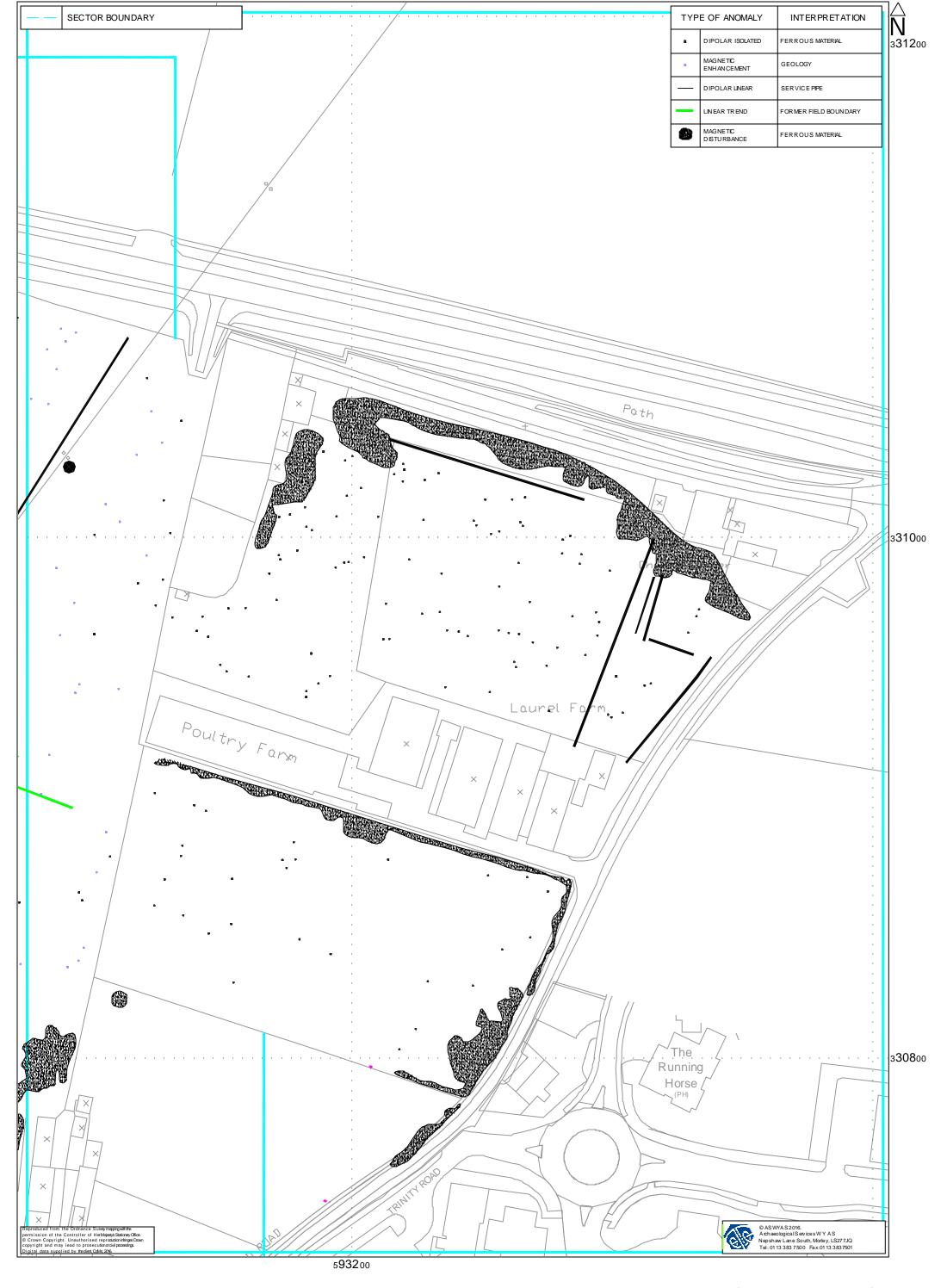
Fig. 6. Processed greyscale magnetometer data; Sector 2 (1:1250 @ A3)



5<mark>0</mark>m

Fig. 7. Interpretation of magnetometer data; Sector 2 (1:1250 @ A3)







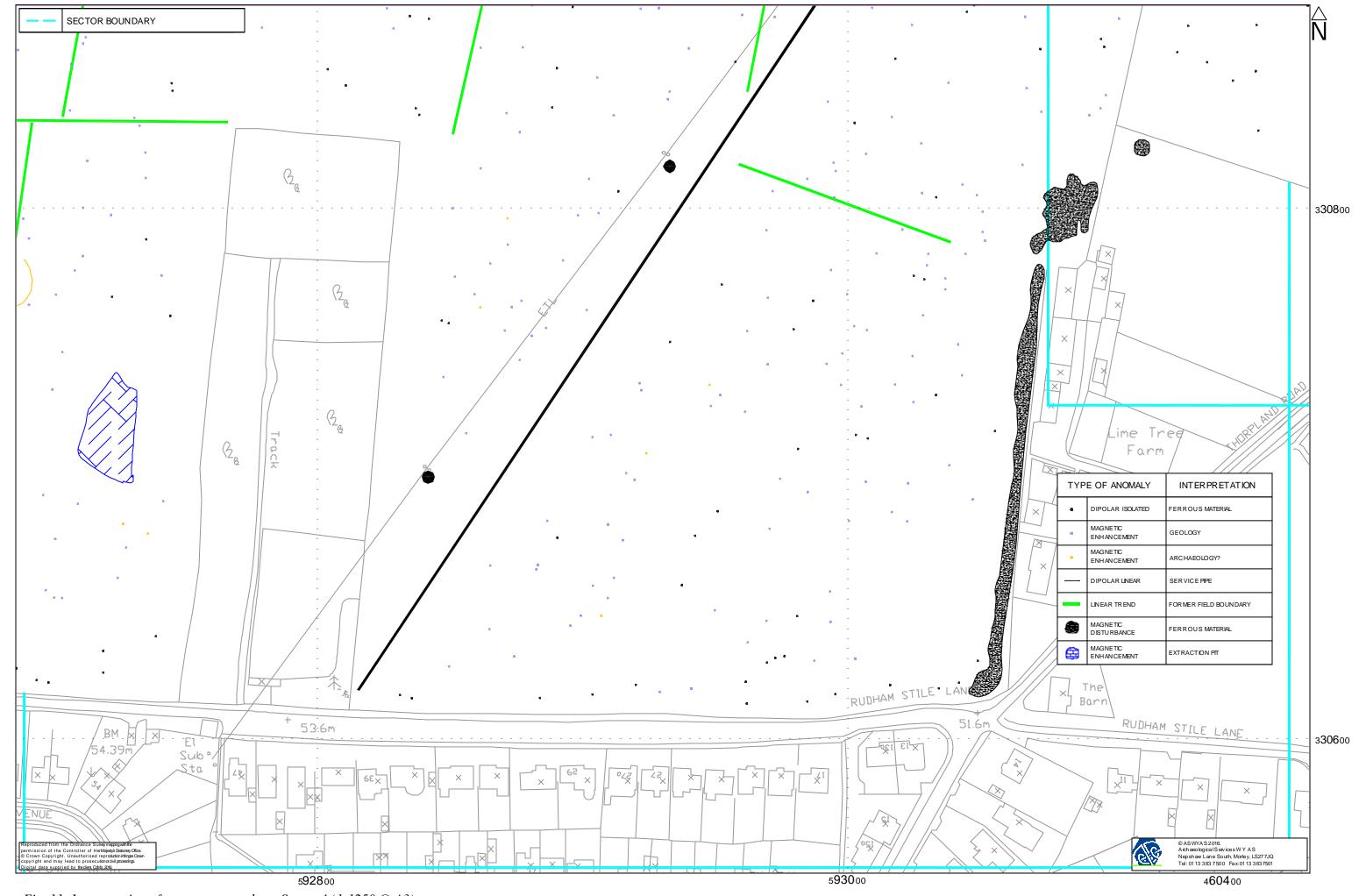


Fig. 11. Interpretaion of magnetometer data; Sector 4 (1:1250 @ A3)



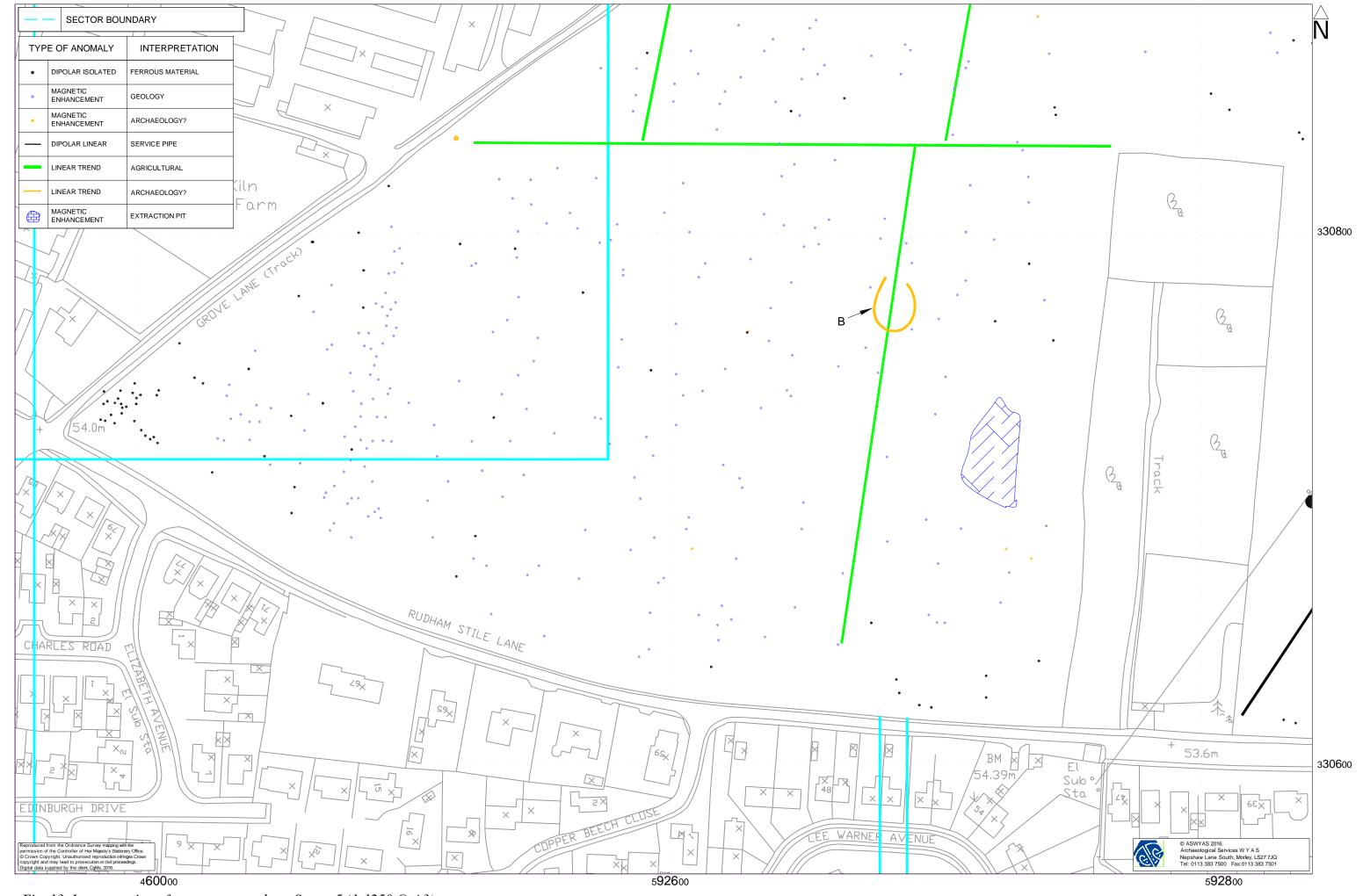


Fig. 13. Interpretation of magnetometer data; Sector 5 (1:1250 @ A3)

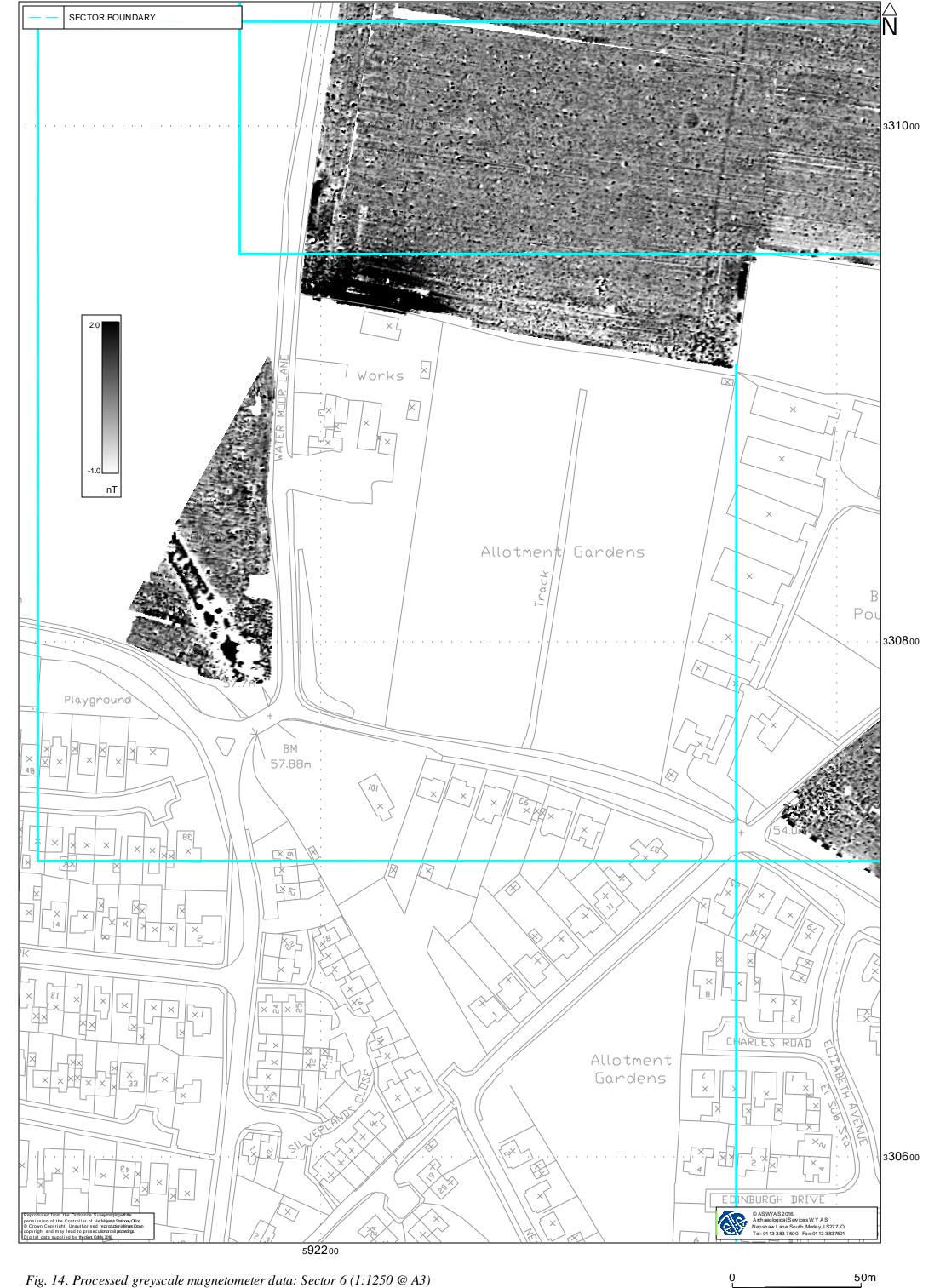


Fig. 14. Processed greyscale magnetometer data: Sector 6 (1:1250 @ A3)

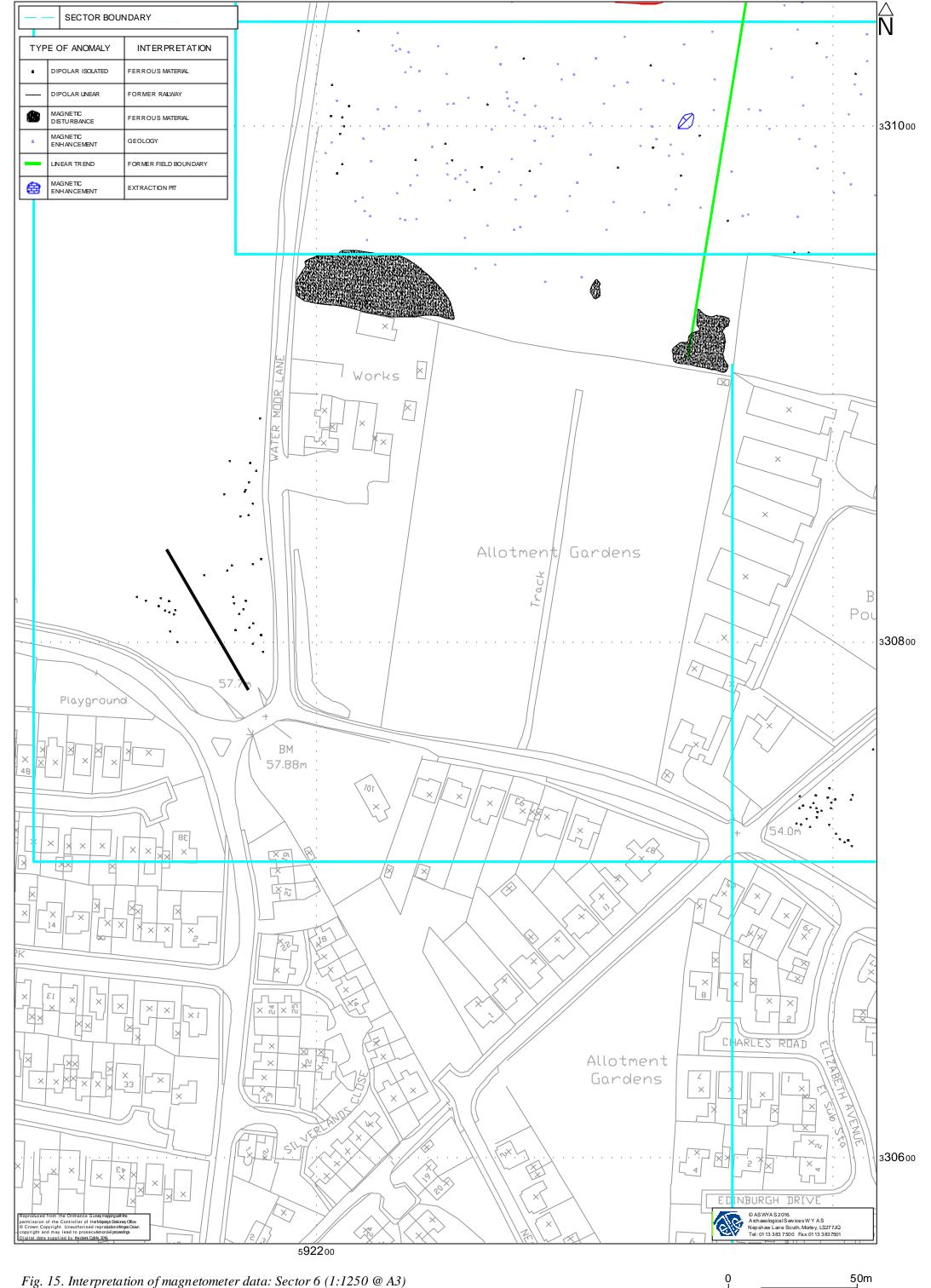




Plate 1. General view of Field 1, looking southwest.



Plate 3. General view of Field 2, looking southwest.



Plate 2. General view of Field 2, looking east.



Plate 4. General view of Field 4, looking northwest.



Plate 5. General view of Field 5, looking southwest.



Plate 7. General view of Field 3, looking northwest.



Plate 6. General view of Field 6, looking northeast.



Plate 8. General view of Field 3, looking northeast.

Appendix 1: Magnetic survey - technical information

Magnetic Susceptibility and Soil Magnetism

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haemetite. These minerals have a weak, measurable magnetic property termed magnetic susceptibility. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms. Areas of human occupation or settlement can then be identified by measuring the magnetic susceptibility of the topsoil because of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently comes to fill features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is the contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of topsoils, subsoils and rocks into which these features have been cut, which causes the most recognisable responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or the bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. The magnetic susceptibility of a soil can also be enhanced by the application of heat and the fermentation and bacterial effects associated with rubbish decomposition. The area of enhancement is usually quite large, mainly due to the tendency of discard areas to extend beyond the limit of the occupation site itself, and spreading by the plough.

Types of Magnetic Anomaly

In the majority of instances anomalies are termed 'positive'. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as 'negative' anomalies that, conversely, means that the response is negative relative to the mean magnetic background.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories that are used in the graphical interpretation of the magnetic data:

Isolated dipolar anomalies (iron spikes)

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

Areas of magnetic disturbance

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

Linear trend

This is usually a weak or broad linear anomaly of unknown cause or date. These anomalies are often caused by agricultural activity, either ploughing or land drains being a common cause.

Areas of magnetic enhancement/positive isolated anomalies

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response on two or three successive traverses. In neither instance is there the intense dipolar response characteristic exhibited by an area of magnetic disturbance or of an 'iron spike' anomaly (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post-holes or by kilns. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

Linear and curvilinear anomalies

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

Methodology: Gradiometer Survey

The magnetometer survey was undertaken using a Sensys Magneto MXPDA cart-based instrument. The instrument has 5 fluxgate gradiometers spaced 0.5m apart with readings recorded at 20Hz. The gradiometers have a range of recording between 0.1nT and 10,000nT. They are linked to a Trimble R6 RTK dGPS system with data recorded by Sensys Magneto MXPDA software on a rugged PDA device. The data was stored on an SD memory card

within the PDA and later downloaded to a computer for processing and interpretation. MAGNETO (Sensys Gmbh) and TerraSurveyor V3.0.25.0 software was used to process and present the dataData Processing and Presentation

The detailed gradiometer data has been presented in this report in processed greyscale format. The data in the greyscale images has been interpolated and selectively filtered to remove the effects of drift in instrument calibration and other artificial data constructs and to maximise the clarity and interpretability of the archaeological anomalies.

TerraSurveyor V3.0.25.0 was used to compensate (destripe) interpolate and clip the data. The same program was used to produce the greyscale images. All greyscale plots are displayed using a linear incremental scale.

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

Appendix 2: Survey location information

An initial survey station was established using a Trimble VRS differential Global Positioning System (Trimble R6 model). The cart data was geo-referenced using the geo-referenced survey station with a Trimble RTK differential Global Positioning System (Trimble R6 model). The accuracy of this equipment is better than 0.01m. The survey grids were then super-imposed onto a base map provided by the client to produce the displayed block locations. However, it should be noted that Ordnance Survey positional accuracy for digital map data has an error of 0.5m for urban and floodplain areas, 1.0m for rural areas and 2.5m for mountain and moorland areas. This potential error must be considered if co-ordinates are measured off hard copies of the mapping rather than using the digital co-ordinates.

Archaeological Services WYAS cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party.

Appendix 3: Geophysical archive

The geophysical archive comprises:-

- an archive disk containing compressed (WinZip 8) files of the raw data, report text (Microsoft Word 2000), and graphics files (Adobe Illustrator CS2 and AutoCAD 2008) files; and
- a full copy of the report.

At present the archive is held by Archaeological Services WYAS although it is anticipated that it may eventually be lodged with the Archaeology Data Service (ADS). Brief details may also be forwarded for inclusion on the English Heritage Geophysical Survey Database after the contents of the report are deemed to be in the public domain (i.e. available for consultation in the Norfolk Environment Record).

Appendix 4: Oasis form

OASIS DATA COLLECTION FORM: England

List of Projects | Manage Projects | Search Projects | New project | Change your details | HER coverage | Change country | Log out

Printable version

OASIS ID: archaeol11-252215

Project details

Project name Rudham Stile Lane, Fakenham

Short description of the project

A cart-based geophysical (magnetometer) survey, covering approximately 46 hectares, was carried out on agricultural land at Rudham Stile Lane,

Fakenham, Norfolk. The survey was undertaken within a proposed

development area which lies in close proximity to a number of HER monument records from prehistoric to post-medieval periods. A ring ditch was identified in the western area of the site with a second smaller circular feature in the south central area. Features relating to post-medieval brick production were identified in the form of clay extraction pits and possible kilns. The survey also identified several former field boundaries which are shown on 19th century mapping of the area. The archaeological potential of the proposed development area is

identified as low to moderate.

Project dates Start: 04-04-2016 End: 22-04-2016

Previous/future work

No / Not known

Any associated project reference codes

6335 - Sitecode

Type of project Field evaluation

Current Land use Cultivated Land 1 - Minimal cultivation

Monument type TRACKWAY Late Prehistoric

Significant Finds RING DITCH Uncertain

Significant Finds FIELD BOUNDARIES Post Medieval

Methods & techniques

"Geophysical Survey"

Prompt National Planning Policy Framework - NPPF

Position in the planning process

Not known / Not recorded

Solid geology CHALK (INCLUDING RED CHALK)

Drift geology GLACIAL SAND AND GRAVEL

Techniques Magnetometry

Development type Not recorded

Project location

Country England

Site location NORFOLK NORTH NORFOLK FAKENHAM Rudham Stile Lane, Fakenham

Study area 46 Hectares

Site coordinates TF 9244 3086 52.840409622532 0.857593450675 52 50 25 N 000 51 27 E

Point

Height OD / Depth Min: 50m Max: 50m

Project creators

Name of Archaeological Services WYAS

Organisation

Project brief originator

CgMs

Project design originator

CGMS

Project

C. Sykes

director/manager

Project supervisor C. Sykes

Project archives

Physical Archive

Exists?

No

Digital Archive recipient

CgMs

Digital Contents

"Survey"

Digital Media

available

"Geophysics", "Images raster / digital photography", "Images vector", "Text"

Paper Archive

Exists?

No

Project bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Title Land at Rudham Stile Lane, Fakenham

Author(s)/Editor(s) Sykes, C

Date 2016

Issuer or publisher **ASWYAS**

Place of issue or

publication

Morley, Leeds

Description A4 report with A3 figures

Entered by Emma Brunning (emma.brunning@aswyas.com)

Entered on 20 May 2016

Appendix 5: Repeat track



Bibliography

- ASWYAS, 2016. Land at Rudham Stile Lane, Fakenham, Norfolk. Geophysical Survey Project Design. Unpublished document
- BGS, 2016. www.bgs.ac.uk/discoveringGeology/geology OfBritain/viewer.html. British Geological Survey (Viewed 24th March 2016)
- CIfA, 2014. Standard and Guidance for Archaeological Geophysical Survey. Chartered Institute for Archaeologists
- David, A., N. Linford, P. Linford and L. Martin, 2008. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines (2nd edition)* English Heritage
- DCLG, 2012. *National Planning Policy Framework*. Department of Communities and Local Government
- Gajos, P. 2015. *Rudham Stile Lane, Fakenham, Norfolk*. CgMs Archaeological Desk Based Assesment. Unpublished document
- SSEW, 1983. Soil Survey of England and Wales: Soils of Eastern England, Sheet 4