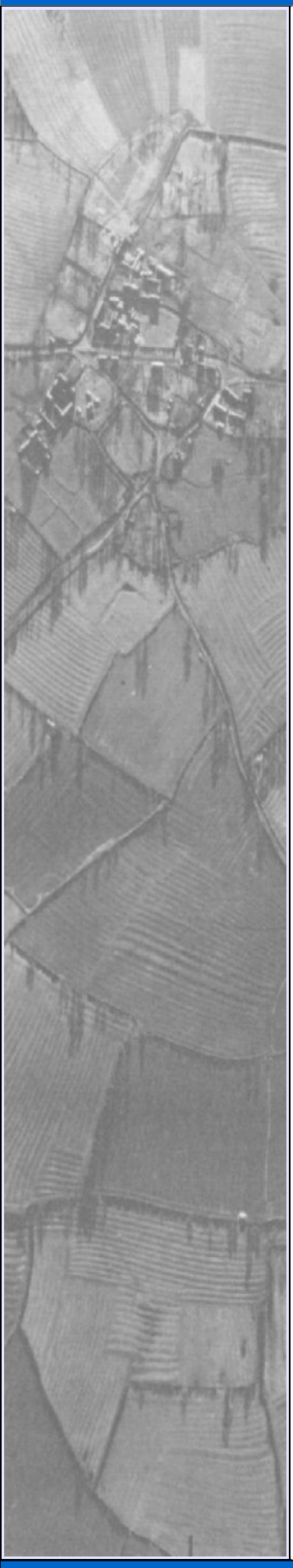

Place Barton Farm
Moreleigh
Devon

MAGNETOMETER SURVEY REPORT

for

British Solar Renewables Ltd

David Sabin and Kerry Donaldson

February 2015

Ref. no. 584

ARCHAEOLOGICAL SURVEYS LTD

Place Barton Farm
Moreleigh
Devon

Magnetometer Survey Report

for

British Solar Renewables Ltd

Fieldwork by David Sabin
Report by David Sabin BSc (Hons) MIFA and Kerry Donaldson BSc (Hons)

Survey dates – 21st & 22nd December 2014, 6th February 2015
Ordnance Survey Grid Reference – **SX 75656 52283**

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SUMMARY

Archaeological Surveys Ltd was commissioned by British Solar Renewables Ltd, at the request of the Environmental Dimension Partnership, to undertake a magnetometer survey of an area of land at Place Barton Farm, Moreleigh in Devon. The survey was requested ahead of a proposed solar farm development. The results demonstrate the presence of several positive linear and curvilinear anomalies and a small number of negative linear anomalies, but no features of obvious archaeological origin could be identified. Generally, the anomalies were classified as uncertain in origin as although several of the positive linear anomalies may represent former ditch-like features, it is likely that the majority are associated with former agricultural activity and land drainage. The site also contains widespread variable and amorphous anomalies of natural origin.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by British Solar Renewables Ltd, at the request of the Environmental Dimension Partnership, to undertake a magnetometer survey of an area of land at Place Barton Farm, Moreleigh in Devon. The site has been outlined for a proposed development of a solar farm and the survey forms part of an archaeological assessment of the site.

1.1.2 The geophysical survey was carried out in accordance with a Written Scheme of Investigation (WSI) produced by Archaeological Surveys (2014), and issued to the Graham Tait of Devon County Council, by EDP.

1.2 Survey objectives and techniques

1.2.1 The objective of the survey was to use magnetometry to locate geophysical anomalies that may be archaeological in origin so that they may be assessed prior to development of the site. The methodology is considered an efficient and effective approach to archaeological prospection.

1.2.2 The survey and report generally follow the recommendations set out by: English Heritage (2008) *Geophysical survey in archaeological field evaluation;* and Institute for Archaeologists (2002) *The use of Geophysical Techniques in Archaeological Evaluations*. The work has been carried out to the Chartered Institute for Archaeologists (2014) *Standard and Guidance for Archaeological Geophysical Survey.*

1.3 Site location, description and survey conditions

1.3.1 The site is located at Place Barton Farm, 750m south west of Moreleigh in Devon. It is centred on Ordnance Survey National Grid Reference (OS NGR) SX 75656 52283, see Figures 01 and 02.

1.3.2 The geophysical survey covers approximately 8.75ha within three parcels of land labelled Areas 1 - 3. The ground cover consisted mainly of rough grass with ruts, stones and boggy ground. The northern part of the site (part of Area 2) contained an area of maize used for bird cover during December; this was subsequently cut down to allow the survey to be completed in February. The north western part of the site (Area 3) was very wet and contained rushes.

1.3.3 The ground conditions across the site were generally considered to be poor for the collection of magnetometry data, with several small rutted and boggy zones that could not be surveyed. In addition, large stones were frequently encountered on the surface which was very uneven in places. Weather conditions during the survey were variable with periods of heavy rain and high winds.

1.4 Site history and archaeological potential

1.4.1 The site lies 300m east of a possible prehistoric enclosure (MDV52025) recorded from cropmarks. The site is known at Place Moor and has been mapped as rough pasture, heath, moor and furze (gorse) until recently. There is, however, potential that the magnetometer survey will locate buried archaeological remains, should they be present within the site.

1.5 Geology and soils

1.5.1 The underlying solid geology across the site is slate, siltstone and sandstone from the Meadfoot Group (BGS, 2014). Many large stones were observed on the surface (up to 80cm across) and these appeared recently disturbed perhaps by attempted cultivation and tree removal. Observations within a small stream or ditch flowing through the site revealed thick layers of iron pan. Ground disturbed by cultivation or tree removal also revealed iron pan suggesting movement of iron minerals within the soil.

1.5.2 The overlying soil across the survey area is from the Yeollandpark association, which are cambic gley soils. These consist of fine, loamy, permeable soils, variably affected by ground water (Soil Survey of England and Wales, 1983).

1.5.3 Magnetometry carried out over similar geology and soil has produced variable results. Shallow geology can produce magnetic anomalies in a variety of morphologies which at times can be difficult to distinguish from those with an anthropogenic origin. Where iron pan occurs, magnetic contrast associated with cut features can be weak and variable.

2 METHODOLOGY

2.1 Technical synopsis

2.1.1 Magnetometry survey records localised magnetic fields that can be associated with features formed by human activity. Magnetic susceptibility and magnetic thermoremnance are factors associated with the formation of localised fields. Additional details are set out below and within Appendix A.

2.1.2 Iron minerals within the soil may become altered by burning and the break down of biological material; effectively the magnetic susceptibility of the soil is increased, and the iron minerals become magnetic in the presence of the Earth's magnetic field. Accumulations of magnetically enhanced soils within features, such as pits and ditches, may produce magnetic anomalies that can be mapped by magnetic prospection.

2.1.3 Magnetic thermoremnance can occur when ferrous minerals have been heated to high temperatures such as in a kiln, hearth, oven etc. On cooling, a permanent magnetisation may be acquired due to the presence of the Earth's magnetic field. Certain natural processes associated with the formation of some igneous and metamorphic rock may also result in magnetic thermoremnance.

2.1.4 The localised variations in magnetism are measured as sub-units of the Tesla, which is a SI unit of magnetic flux density. These sub-units are nano Teslas (nT), which are equivalent to 10^{-9} Tesla (T).

2.2 Equipment configuration, data collection and survey detail

2.2.1 The detailed magnetic survey was carried out using a SENSYS MAGNETO®MXPDA 5 channel cart-based system. The instrument has 5 fluxgate gradiometers spaced 0.5m apart with readings recorded at 20 Hz. The gradiometers have a range of recording data between 0.1nT and 10,000nT. They are linked to a Leica GS10 RTK GPS with data recorded by SENSYS MAGNETO®MXPDA software on a rugged PDA computer system.

2.2.2 Data are collected along a series of parallel survey transects wherever possible. The length of each transect is variable and relates to the size of the survey area and other factors including ground conditions. A visual display allows accurate placing of transects and helps maintain the correct separation between adjacent traverses.

2.3 Data processing and presentation

2.3.1 Magnetic data collected by the MAGNETO®MXPDA cart-based system are initially prepared and automatically compensated using SENSYS MAGNETO®DLMGPS software. Georeferenced raw data are then exported in ASCII format for further analysis and display using TerraSurveyor.

2.3.2 The data are collected at ±10000nT and clipped for display at ±20nT. Data are resampled to a resolution of effectively 0.5m between tracks and 0.15m along each survey track. Appendix C contains specific information concerning the survey and data attributes and is derived directly from TerraSurveyor. Reference should be made to Appendix B for further information on any processes, such as clipping, carried out on the data.

2.3.3 A TIFF file is produced by TerraSurveyor software along with an associated world file (.TFW) that allows automatic georeferencing (OSGB36 datum) when using GIS or CAD software. The main form of data display used in the report is the minimally processed greyscale plot.

2.3.4 The raster images are combined with base mapping using ProgeCAD Professional 2014, creating DWG file formats. All images are externally referenced to the CAD drawing in order to maintain good graphical quality. The CAD plots are effectively georeferenced facilitating relocation of features using GPS, resection method, etc.

2.3.5 An abstraction and interpretation is offered for all geophysical anomalies located by the survey. A brief summary of each anomaly, with an appropriate reference number, is set out in list form within the results (Section 3) to allow a rapid and objective assessment of features within each survey area. Anomalies are abstracted using colour coded points, lines and polygons. All plots are scaled to landscape A3 for paper printing.

2.3.6 A digital archive is produced with this report, see Appendix D below. The main archive is held at the offices of Archaeological Surveys Ltd.

3 RESULTS

3.1 General assessment of survey results

3.1.1 The detailed magnetic survey was carried out over a total of three survey areas covering approximately 8.75ha.

3.1.2 Magnetic anomalies located can be generally classified as positive and negative anomalies of an uncertain origin, anomalies associated with land management, areas of magnetic debris and disturbance, strong discrete dipolar anomalies relating to ferrous objects and anomalies with a natural origin.

3.2 Statement of data quality

3.2.1 Data are considered representative of the magnetic anomalies present within the site. There are no significant defects within the dataset. The soils and underlying geology have created numerous anomalies of natural origin.

3.3 Data interpretation

3.3.1 The list of sub-headings below attempts to define a number of separate categories that reflect the range and type of features located during the survey. A basic explanation of the characteristics of the magnetic anomalies is set out for each category in order to justify interpretation, a basic key is indicated to allow cross referencing to the abstraction and interpretation plot. CAD layer names are included to aid reference to associated digital files (.dwg/.dxf). Sub-headings are then used to group anomalies with similar characteristics for each survey area.

Report sub-heading CAD layer names and plot colour	Description and origin of anomalies
Anomalies with an uncertain origin AS-ABST MAG POS LINEAR UNCERTAIN AS-ABST MAG NEG LINEAR UNCERTAIN AS-ABST MAG POS DISCRETE UNCERTAIN	The category applies to a range of anomalies where there is not enough evidence to confidently suggest an origin. Anomalies in this category may well be related to archaeologically significant features, but equally relatively modern features, geological/pedological features and agricultural features should be considered. Positive anomalies are indicative of magnetically enhanced soils that may form the fill of 'cut' features or may be produced by accumulation within layers or 'earthwork' features; soils subject to burning may also produce positive anomalies. Negative anomalies are produced by material of comparatively low magnetic susceptibility such as stone and subsoil.
Anomalies relating to land management AS-ABST MAG LAND DRAIN	Land drains can appear in a classic herringbone pattern of interconnected multiple dipolar linear anomalies, or as parallel linear anomalies. The multiple dipolar response indicates a ceramic land drain.
Anomalies with an agricultural origin AS-ABST MAG AGRICULTURAL	The anomalies are often linear and form a series of parallel responses or are parallel to extant land boundaries. Where the response is broad, former ridge and furrow is likely; narrow response is often related to modern ploughing.
Anomalies associated with magnetic debris AS-ABST MAG DEBRIS AS-ABST MAG STRONG DIPOLAR	Magnetic debris often appears as areas containing many small dipolar anomalies that may range from weak to very strong in magnitude. It often occurs where there has been dumping or ground make-up and is related to magnetically thermoremnant materials such as brick or tile or other small fragments of ferrous material. This type of response is occasionally associated with kilns, furnace structures, or hearths and may therefore be archaeologically significant. It is also possible that the response may be caused by natural material such as certain gravels and fragments of igneous or metamorphic rock. Strong discrete dipolar anomalies are responses to ferrous objects within the topsoil.
Anomalies with a natural origin AS-ABST MAG NATURAL FEATURES	Naturally formed magnetic anomalies are are caused by localised variability in the magnetic susceptibility of soils, subsoils and other drift or solid geologies. Anomalies may be amorphous, linear or curvilinear and may appear 'fluvial' or discrete; the latter are almost impossible to distinguished from pit-like anomalies with an anthropogenic origin. Fluvial, glacial and periglacial processes may be responsible for their formation within drift material and subsoil. Igneous and metamorphic activity can lead to anomalies within more solid geology.

Table 1: List and description of interpretation categories

3.4 List of anomalies – Area 1

Area centred on OS NGR 275735 52190, see Figures 03 & 04.

Anomalies with an uncertain origin

(1) – A fragmented positive linear anomaly is located in the north eastern part of the survey area. It appears to relate to a cut, ditch-like feature which has been truncated. It is possible, however, that it is associated with anomalies (2) and with land drainage.

(2) – A positive and negative linear anomaly are parallel with the land drain (4) and may be associated. Another parallel positive linear anomaly can be seen to the south and may have a similar origin.

(3) – The survey area contains a number of positive linear and curvilinear anomalies with no coherent morphology or layout. Although this type of response may indicate a cut feature, it is likely that many are associated with cultivation, vegetation clearance, ruts and land drainage.

Anomalies associated with land management

(4) – A weakly multiple diploar linear anomaly is characteristic of a ceramic land drain. Other linear anomalies (2) are parallel with it and may be associated.

Anomalies with an agricultural origin

(5) – A number of linear anomalies can be seen primarily within patches of variable magnetic response. These linear anomalies appear to relate to agricultural activity.

Anomalies associated with magnetic debris

(6) – A number of strong, discrete, dipolar anomalies relate to ferrous and other magnetically thermoremnant objects within the topsoil.

Anomalies with a natural origin

(7) – The survey area contains a number of magnetically variable responses that are likely to relate to the underlying geology.

3.5 List of anomalies – Area 2

Area centred on OS NGR 275678 52310 see Figures 03 & 04.

Anomalies with an uncertain origin

(8) – The survey area contains a number of short, positive linear and negative linear anomalies. They lack a coherent form or pattern and it is not possible to determine their origin.

Anomalies associated with land management

(9) – Two weakly multiple dipolar linear anomalies and a negative linear anomaly can be seen crossing the survey area and these relate to land drains.

Anomalies with a natural origin

(10) – Zones of magnetically variable responses relate to natural features within the underlying geology.

3.6 List of anomalies – Area 3

Area centred on OS NGR 275615 52420 see Figures 03 & 04.

Anomalies with an uncertain origin

(11) – The survey area contains a positive linear anomaly. It is not possible to determine its origin.

(12) – A negative linear anomaly may relate to a deep rut within the ground surface.

Anomalies associated with land management

(13) – A weak, multiple dipolar linear anomaly relates to a ceramic land drain that extends westwards from Area 2.

(14) – Two negative linear anomalies at the southern end of the survey area relate to drainage channels.

Anomalies with a natural origin

(15) – A zone of magnetically variable responses appears to relate to natural features.

4 CONCLUSION

4.1.1 The results of the magnetometry have demonstrated the presence of several positive and negative linear anomalies and a small number of positive curvilinear anomalies. There is generally no coherent pattern or layout associated with these anomalies and they have been classified as uncertain in origin. Positive anomalies may indicate the presence of former cut, ditch-like features; however, it is likely that many are associated with land drainage and recent cultivation.

4.1.2 Widespread amorphous anomalies and zones of variable magnetic response almost certainly relate to natural changes in magnetic susceptibility. It is likely that this variability relates to both the redistribution of iron minerals and soil by fluvial action, and to differences in the make-up and depth of the solid geology. In addition, recent agricultural activity has affected these natural changes causing numerous striations within the magnetic response.

5 REFERENCES

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Appendix A – basic principles of magnetic survey

Iron minerals are always present to some degree within the topsoil and enhancement associated with human activity is related to increases in the level of magnetic susceptibility and thermoremnant material.

Magnetic susceptibility is an induced magnetism within a material when it is in the presence of a magnetic field. This can be thought of as effectively permanent due to the presence of the Earth's magnetic field.

Thermoremnant magnetism occurs when ferrous material is heated beyond a specific temperature known as the Curie Point. Demagnetisation occurs at this temperature with re-magnetisation by the Earth's magnetic field upon cooling.

Enhancement of magnetic susceptibility can occur in areas subject to burning and complex fermentation processes on biological material; these are frequently associated with human settlement. Thermoremnant features include ovens, hearths, and kilns. In addition thermoremnant material such as tile and brick may also be associated with human activity and settlement.

Silting and deliberate infilling of ditches and pits with magnetically enhanced soil can create an area of enhancement compared with surrounding soils and subsoils into which the feature is cut. Mapping enhanced areas will produce linear and discrete anomalies allowing an assessment and characterisation of hidden subsurface features.

It should be noted that areas of negative enhancement can be produced from material having lower magnetic properties compared to the topsoil. This is common for many sedimentary bedrocks and subsoils which were often used in the construction of banks and walls etc. Mapping these 'negative' anomalies may also reveal archaeological features.

Magnetic survey or magnetometry can be carried out using a fluxgate gradiometer and may be referred to as gradiometry. The SENSYS gradiometer is a passive instrument consisting of two fluxgate sensors mounted vertically 65cm apart. The instrument is carried about 10-20cm above the ground surface and the upper sensor measures the Earth's magnetic field as does the lower sensor but this is influenced to a greater degree by any localised buried field. The difference between the two sensors will relate to the strength the magnetic field created by the buried feature.

There are a number of factors that may affect the magnetic survey and these include soil type, local geology and previous human activity. Situations arise where magnetic disturbance associated with modern services, metal fencing, dumped waste material etc., obscures low magnitude fields associated with archaeological features.

Appendix B – data processing notes

Clipping

Minimum and maximum values are set and replace data outside of the range with those values. Extreme values are removed improving colour or greyscale contrast associated with data values that may be archaeologically significant. It has been found that clipping data to ranges between ±20nT and ±10nT often improves the appearance of features associated with archaeology. Different ranges are applied to data in order to determine the most suitable for anomaly abstraction and display.

High Pass Filtering

A mathematical process used to remove low frequency anomalies relating to survey tracks and modern agricultural features.

Appendix C – survey and data information

Area 1

COMPOSITE
Path: D:\Business\Jobs\J584 Place Barton, Moreleigh\Data\Area 1\comps\
Filename: J584-mag-Area1-proc.xcp
Description: Imported as Composite from: J584 Area 1.asc
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y):
Northwest corner: 275597.951684417, 52324.1018595416 m
Southeast corner: 275856.551684417, 52046.3018595416 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 1
Dummy Value: 32702

Source GPS Points: 1189500

Dimensions
Composite Size (readings): 1724 x 1852
Survey Size (meters): 259 m x 278 m
Grid Size: 259 m x 278 m
X Interval: 0.15 m
Y Interval: 0.15 m

Stats
Max: 11.05
Min: -11.00
Std Dev: 3.76
Mean: -0.04
Median: -0.08
Composite Area: 7.1839 ha
Surveyed Area: 3.3733 ha

Processes: 1
1 Base Layer

GPS based Proce3
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to OSGB36).
3 Clip from -10.00 to 10.00 nT

Area 2

COMPOSITE
Path: C:\Business\Jobs\J584 Place Barton, Moreleigh\Data\Area 2\comps\
Filename: J584-mag-Area2-proc.xcp
Description: Imported as Composite from: J584-mag-Area2.asc
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y):
Northwest corner: 275581.838364367, 52465.7382969043 m
Southeast corner: 275758.538364367, 52185.0882969043 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 1
Dummy Value: 32702

Source GPS Points: 1033700

Dimensions
Composite Size (readings): 1178 x 1871
Survey Size (meters): 177 m x 281 m
Grid Size: 177 m x 281 m
X Interval: 0.15 m
Y Interval: 0.15 m

Stats
Max: 11.05
Min: -11.00
Std Dev: 2.87
Mean: 0.04
Median: -0.01
Composite Area: 4.9591 ha
Surveyed Area: 2.5409 ha

Processes: 1
1 Base Layer

GPS based Proce6
1 Base Layer.
2 Unit Conversion Layer (to OSGB36).
3 Clip from -20.00 to 20.00 nT
4 High pass Uniform (median) filter: Window dia: 300
5 Clip from -20.00 to 20.00 nT
6 Clip from -10.00 to 10.00 nT

Area 3

COMPOSITE
Path: C:\Business\Jobs\J584 Place Barton, Moreleigh\Data\Area 3\comps\
Filename: J584-mag-Area3-proc.xcp
Description: Imported as Composite from: J584-mag-Area3.asc
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y):
Northwest corner: 275559.76985394, 52508.1740942936 m
Southeast corner: 275691.96985394, 52330.1740942936 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 1
Dummy Value: 32702

Source GPS Points: 486100

Dimensions
Composite Size (readings): 661 x 890
Survey Size (meters): 132 m x 178 m
Grid Size: 132 m x 178 m
X Interval: 0.2 m
Y Interval: 0.2 m

Stats
Max: 11.05
Min: -11.00
Std Dev: 2.12
Mean: 0.03
Median: 0.01
Composite Area: 2.3532 ha
Surveyed Area: 1.5225 ha

Processes: 1
1 Base Layer

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to OSGB36).
3 High pass Uniform (median) filter: Window dia: 300
4 Lo pass Uniform (median) filter: Window dia: 5
5 Clip from -10.00 to 10.00 nT

Appendix D – digital archive

Archaeological Surveys Ltd hold the primary digital archive at their offices in Wiltshire (see inside cover for address). Data are backed-up onto an on-site data storage drive and at the earliest opportunity data are copied to CD ROM for storage on-site and off-site.

Surveys are reported on in hardcopy (recycled paper) using A4 for text and A3 for plots (all plots are scaled for A3).

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This report has been prepared using the following software on a Windows XP platform:

- TerraSurveyor version 3.0.23.0 (geophysical data analysis),
- SENSYS MAGNETO®ARCH version 1.00-04(geophysical data analysis),
- ProgeCAD Professional 2014 (report graphics),
- OpenOffice.org 3.0.1 Writer (document text),
- PDF Creator version 0.9 (PDF)
- Solid PDF Creator version 8 (PDF archive).

Digital data produced by the survey and report include the following files:

- TerraSurveyor grid and composite files for all geophysical data,
- CSV files for raw and processed composites,
- geophysical composite file graphics as TIF images,
- CAD DWG files in 2007 version,
- report text as OpenOffice.org ODT file,
- report text and Figures as PDF / PDF/A.

As specified by the County Curator, the raw data (unclipped and uncompensated) will be deposited with the Archaeology Data Service ADS and the report uploaded to Online AccesS to the Index of archaeological investigations (OASIS) in the formats stated below for archiving:

- ADS - SENSYS MAGNETO raw composite data files (eg J584_Place_Barton_mag_Area1.csv
- ADS - AutoCAD LT 2007 – CAD without OS mapping (eg J584_Place_Barton_CAD.dwg)
- ADS - Raster graphic image – processed data (eg J584_Place_Barton_mag_Area1_proc.tif)
- OASIS - PDF copy of the report with plots (eg J584 Place Barton report.pdf)

Archaeological Surveys Ltd

Geophysical Survey
Place Barton Farm
Moreleigh
Devon

Map of survey area

Survey location

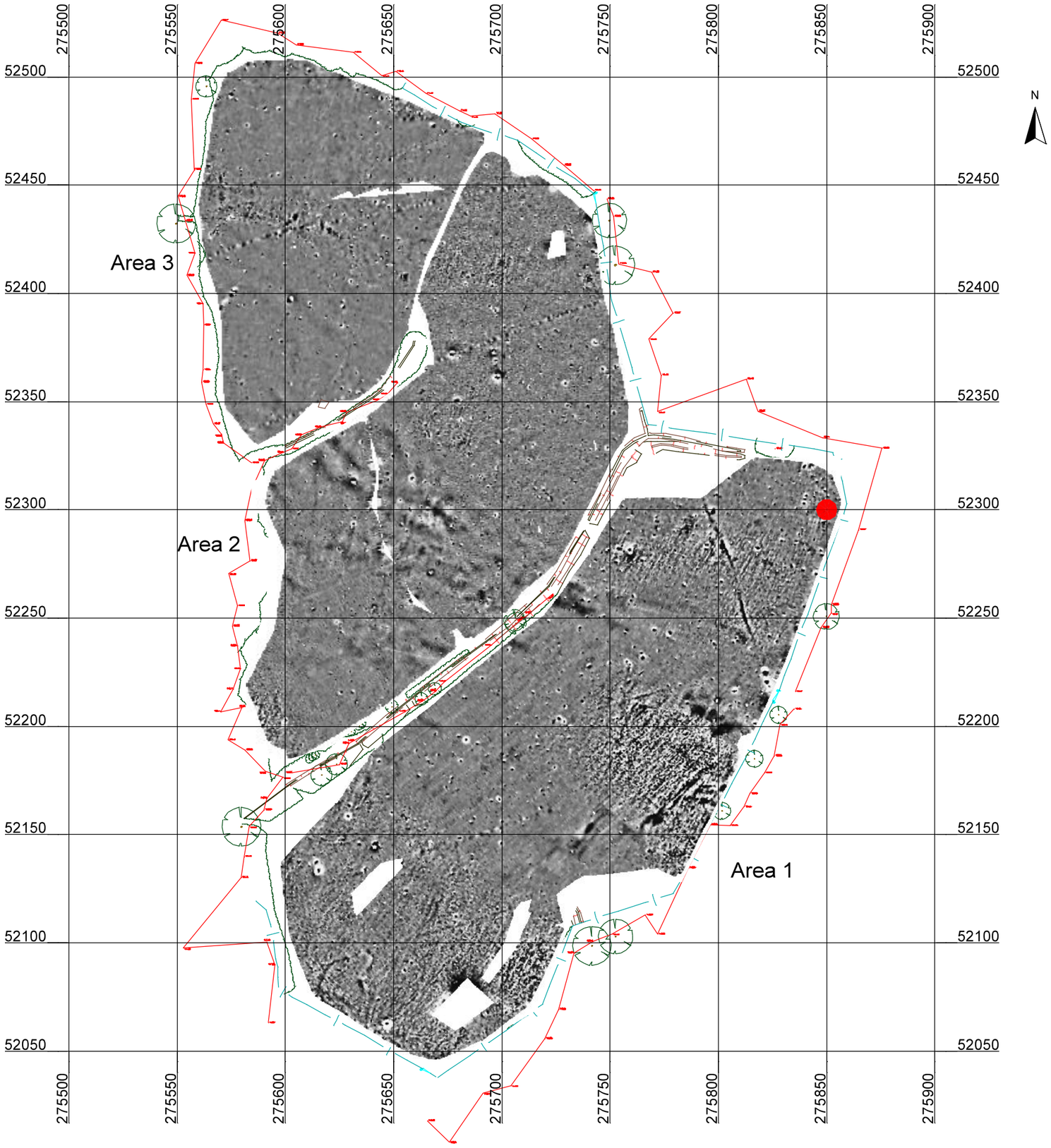
Site centred on OS NGR
SX 75656 52283

SCALE 1:25 000

0m 500m 1000m

SCALE TRUE AT A3

FIG 01



Archaeological Surveys Ltd

Geophysical Survey
Place Barton Farm
Moreleigh
Devon

Referencing information

Referencing grid to OSGB36 datum at 50m intervals

Data collected at 20Hz and georeferenced to ETRS89 zone 30 with conversion to OSGB36 using OSTN02

● 275850 52300

SCALE 1:2000

0m 20 40 60 80 100m

SCALE TRUE AT A3

FIG 02

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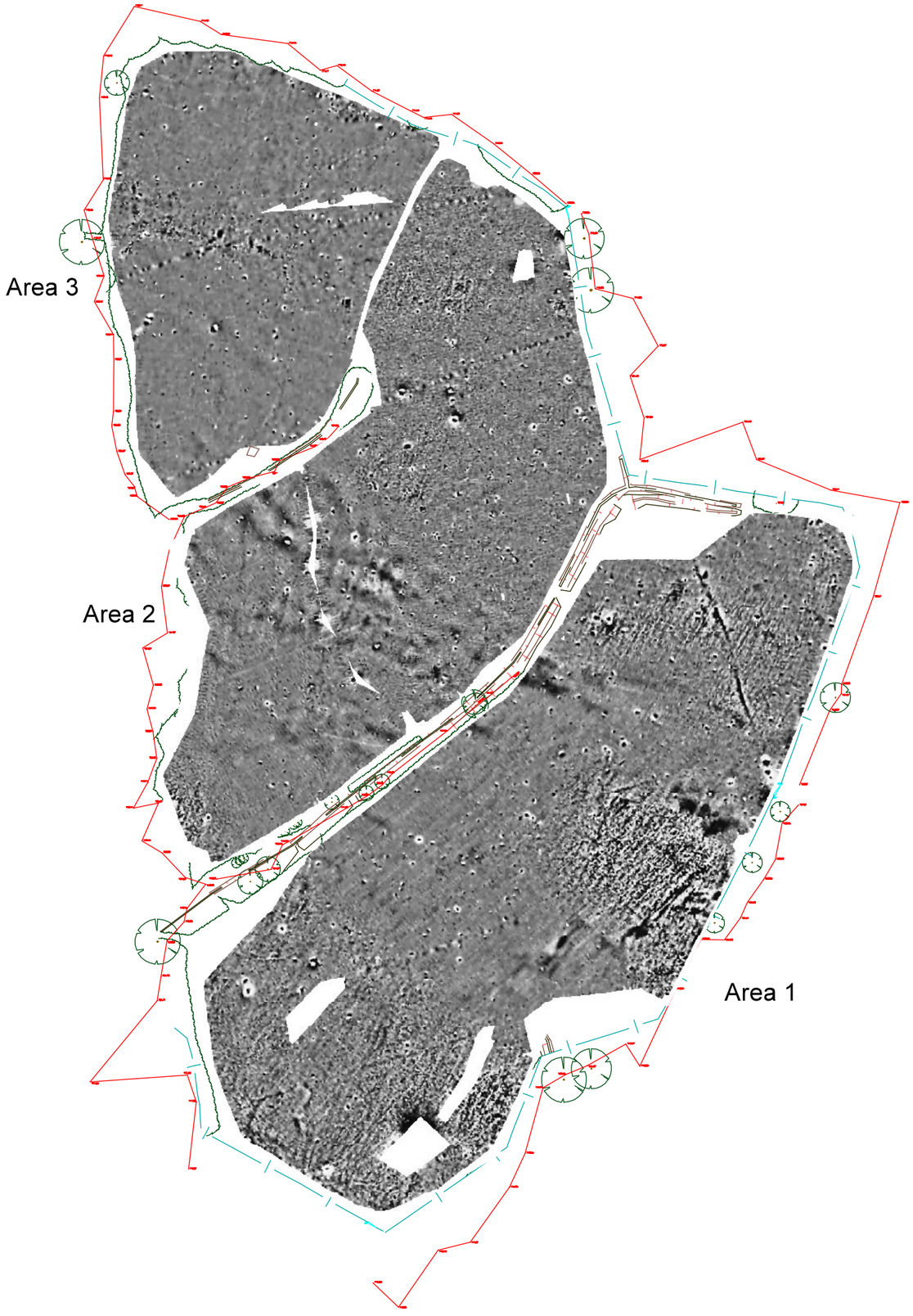
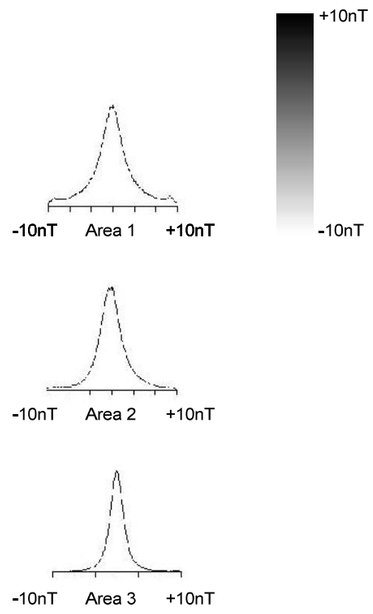
Geophysical Survey
Place Barton Farm
Moreleigh
Devon



Greyscale plot of minimally processed magnetometer data



SCALE 1:2000

0m 20 40 60 80 100m

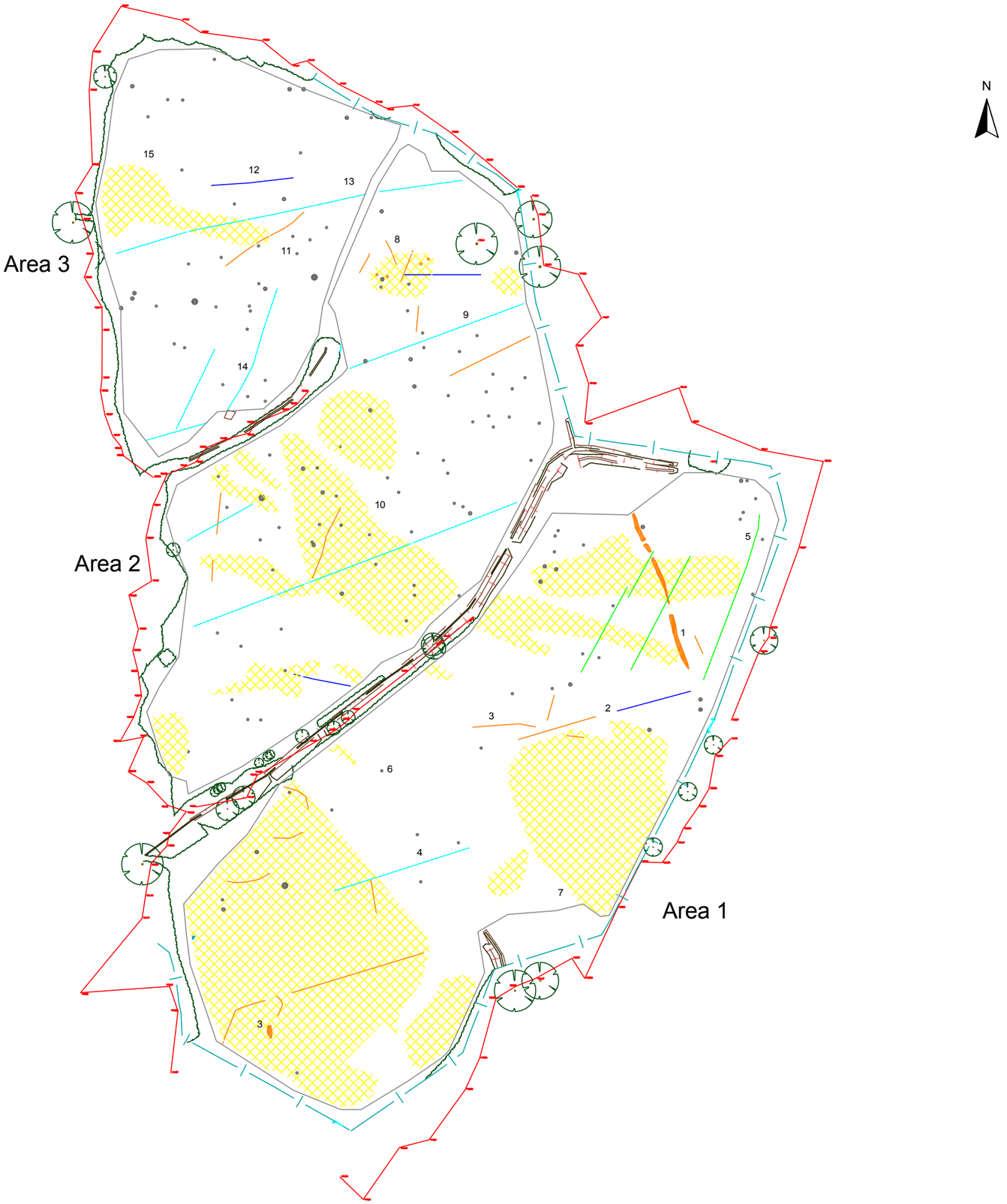
SCALE TRUE AT A3

FIG 03

Archaeological Surveys Ltd

Geophysical Survey
Place Barton Farm
Moreleigh
Devon

Abstraction and interpretation of magnetometer anomalies



- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Positive linear anomaly - possible land drain
- Negative linear anomaly - material of low magnetic susceptibility
- Discrete positive response - possible pit-like feature
- Variable magnetic response - of natural origin
- Strong dipolar anomaly - ferrous object

SCALE 1:2000

0m 20 40 60 80 100m

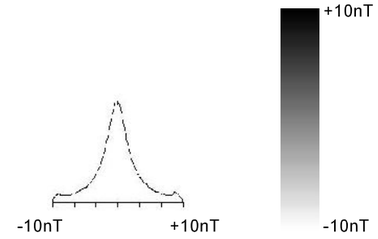
SCALE TRUE AT A3

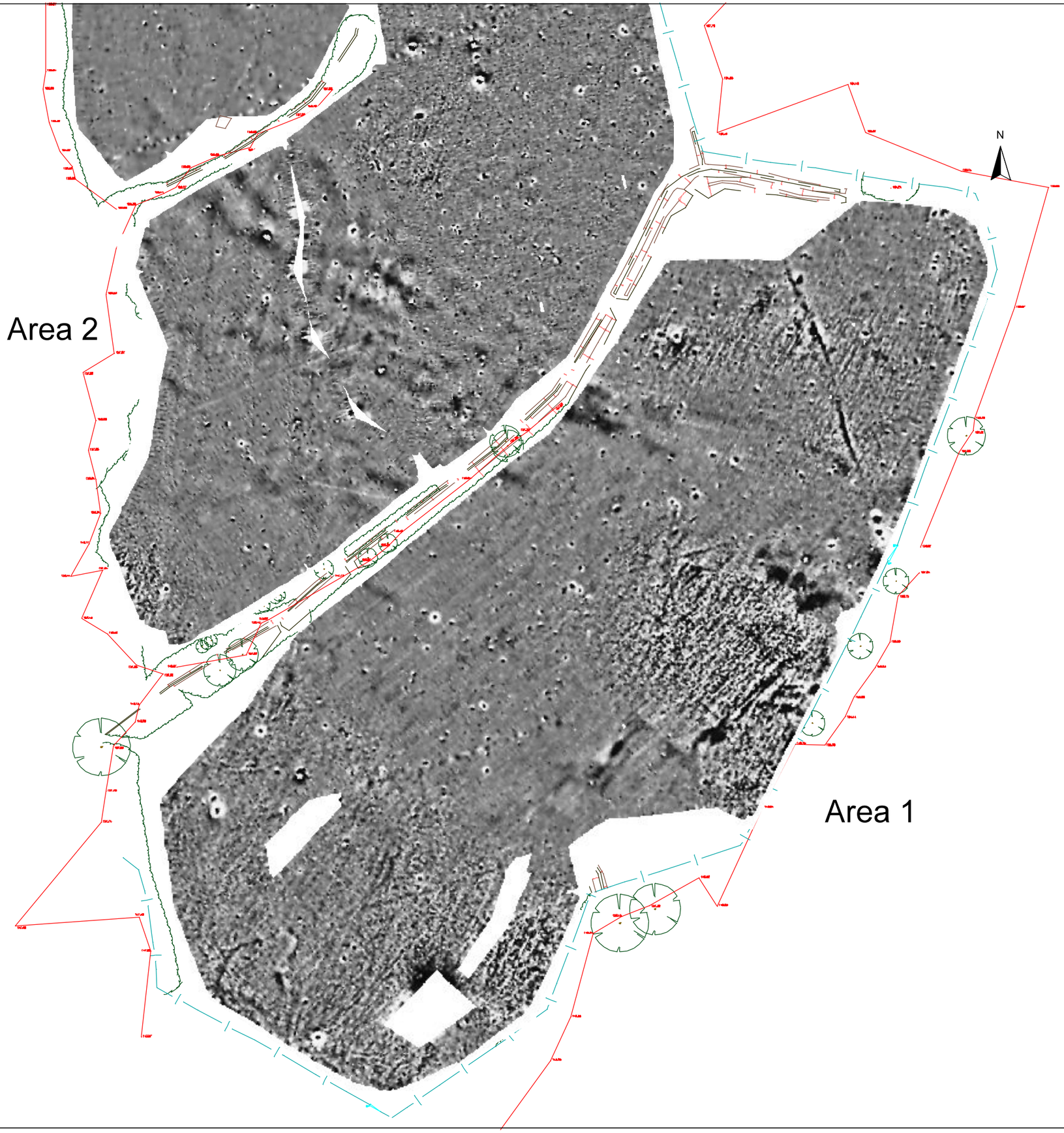
FIG 04

Archaeological Surveys Ltd

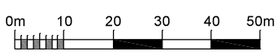
Geophysical Survey
Place Barton Farm
Moreleigh
Devon

Greyscale plot of minimally processed magnetometer data - Area 1





SCALE 1:1250



SCALE TRUE AT A3

FIG 05

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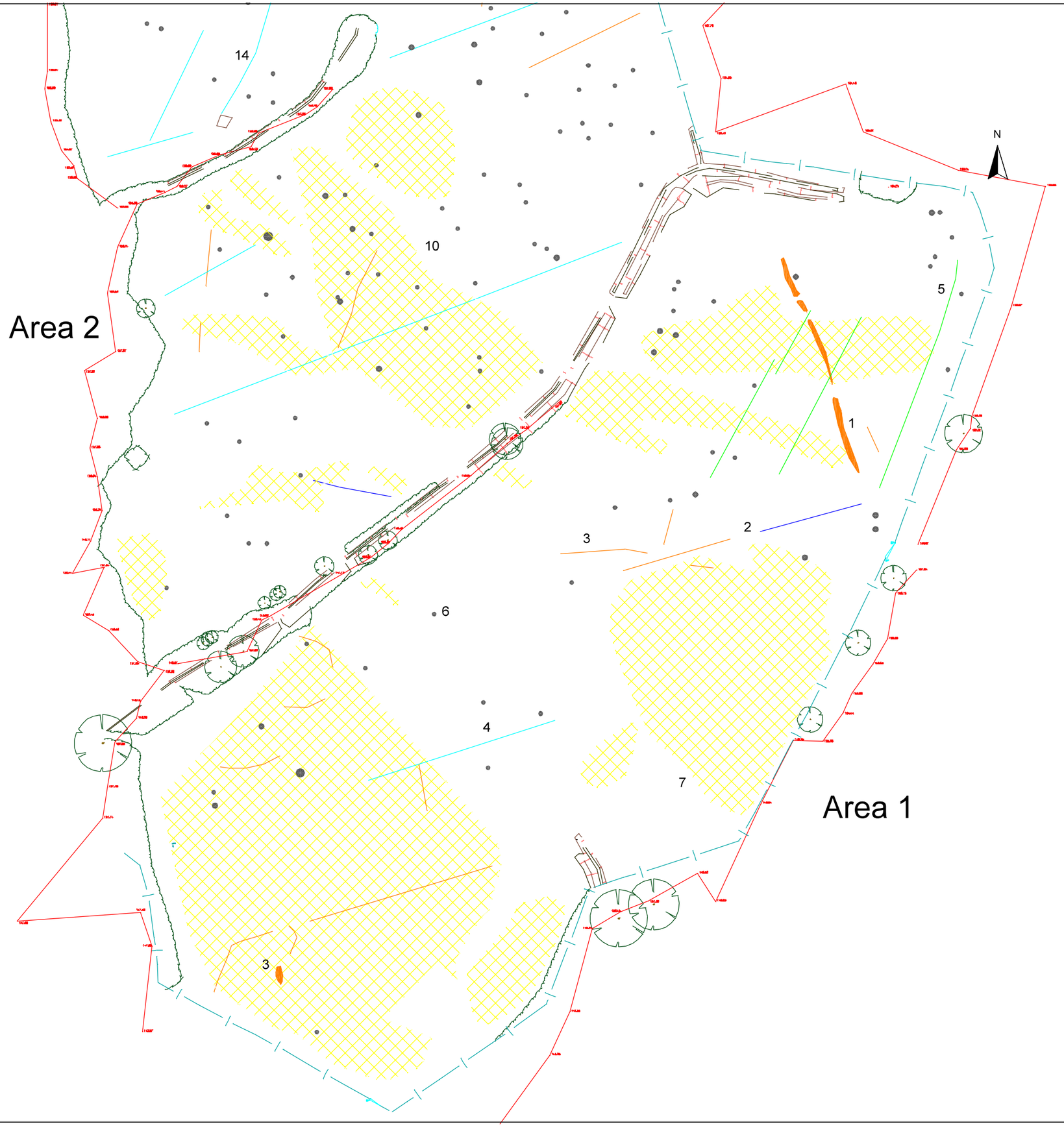
Place Barton Farm
Moreleigh
Devon

Abstraction and interpretation of magnetometer anomalies - Area 1



- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Positive linear anomaly - possible land drain
- Negative linear anomaly - material of low magnetic susceptibility
- Discrete positive response - possible pit-like feature
- Variable magnetic response - of natural origin
- Strong dipolar anomaly - ferrous object

SCALE 1:1250

0m 10 20 30 40 50m

SCALE TRUE AT A3

FIG 06

Area 3

Area 2

N

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Place Barton Farm
Moreleigh
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Greyscale plot of minimally processed magnetometer data - Areas 2 & 3

+10nT

-10nT

-10nT Area 2 +10nT

-10nT Area 3 +10nT

SCALE 1:1250

0m 10 20 30 40 50m

SCALE TRUE AT A3

FIG 07

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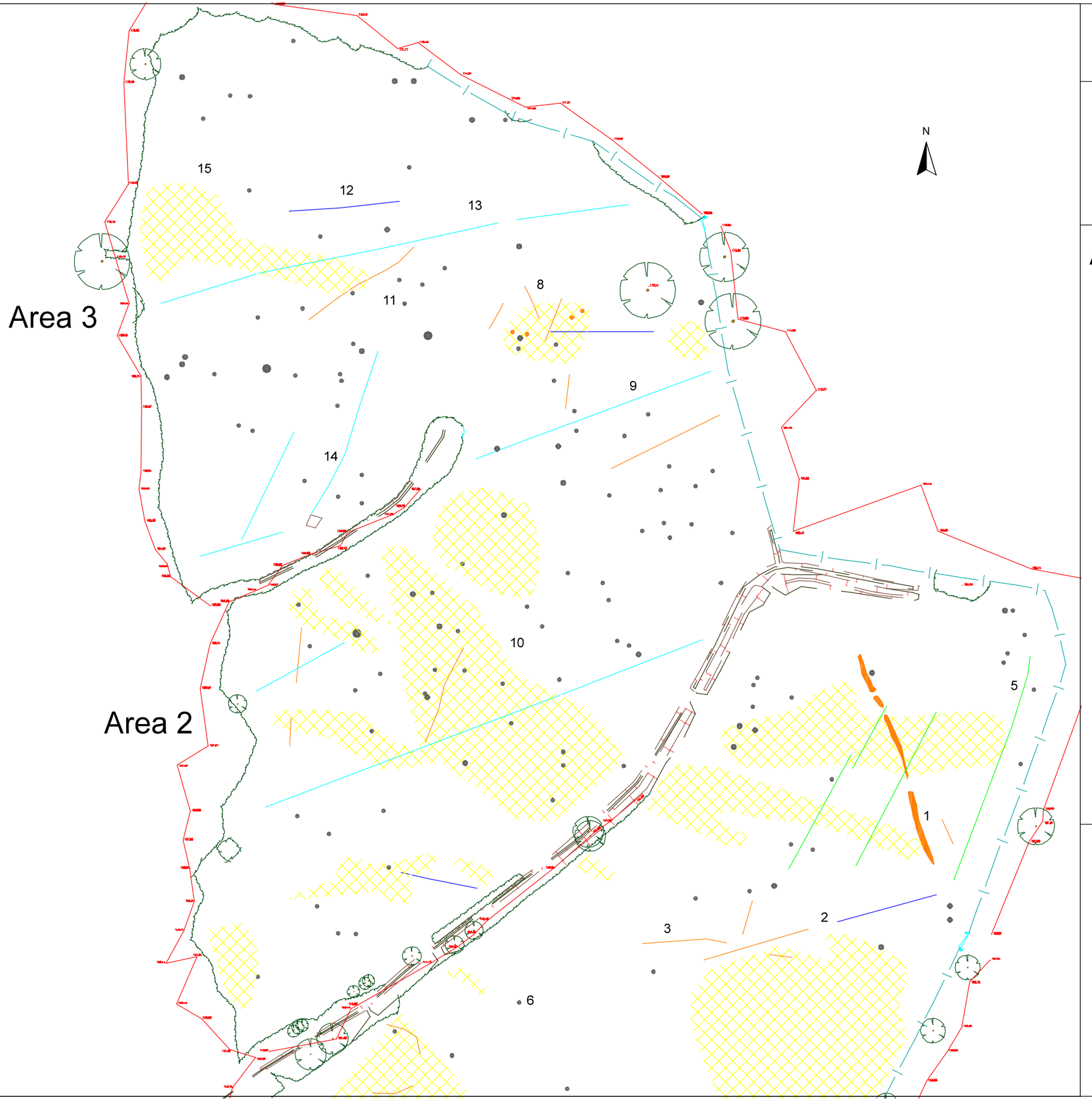
Place Barton Farm
Moreleigh
Devon

Abstraction and interpretation of magnetometer anomalies - Areas 2 & 3



- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Positive linear anomaly - possible land drain
- Negative linear anomaly - material of low magnetic susceptibility
- Discrete positive response - possible pit-like feature
- Variable magnetic response - of natural origin
- Strong dipolar anomaly - ferrous object

SCALE 1:1250

0m 10 20 30 40 50m

SCALE TRUE AT A3

FIG 08