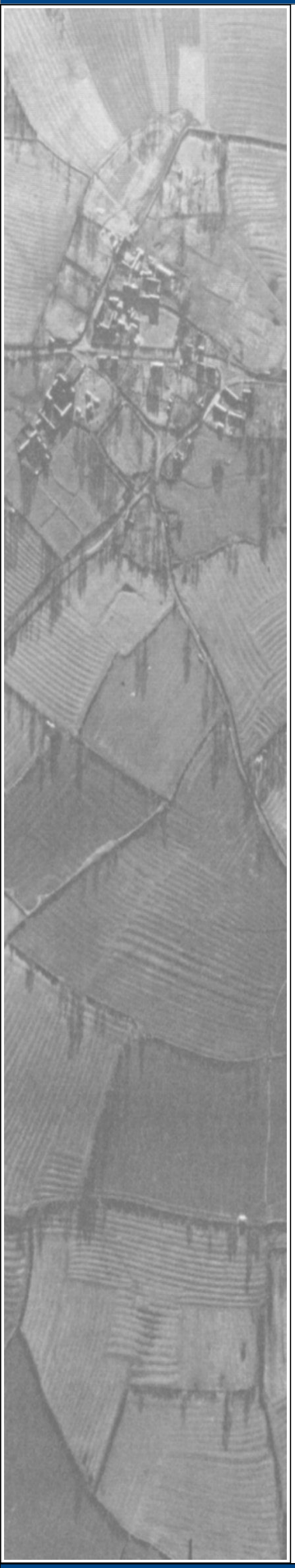

Proposed access track
Euridge Manor Farm
Colerne
Wiltshire

MAGNETOMETER SURVEY REPORT

for

Mr J Robinson

Kerry Donaldson & David Sabin

December 2022

Ref. no. J942

ARCHAEOLOGICAL SURVEYS LTD

Proposed access track
Euridge Manor Farm
Colerne
Wiltshire

MAGNETOMETER SURVEY REPORT

for

Mr J Robinson

Fieldwork by David Sabin BSc (Hons) MCIfA
Report by Kerry Donaldson BSc (Hons) MCIfA
Report checked by David Sabin
Primary archive location - Archaeological Surveys Ltd, Yatesbury, Wiltshire

Survey dates – 17th November & 8th December 2022
Ordnance Survey Grid Reference – **ST 83173 72155 to ST 82927 72883**

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SUMMARY

A geophysical survey, comprising detailed magnetometry, was carried out over a 850m long corridor ahead of the construction of a proposed new access track to Euridge Manor Farm, Colerne, Wiltshire. The results indicate the presence of a number of positive linear and discrete anomalies which cannot be confidently interpreted as cut features. At the northern end of the corridor a number of positive linear, discrete and amorphous anomalies may relate to naturally formed features within the underlying geology, but an anthropogenic origin cannot be completely ruled out. The majority of the anomalies located within the site lie to the east of the proposed route of the new access track.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by Gail Lewis of Land Development & Planning Consultants Ltd, on behalf of Mr John Robinson, to undertake a magnetometer survey of an area of land at Euridge Manor Farm, Colerne, Wiltshire. The site has been outlined for a proposed new access track (Wiltshire Council Planning application no: PL/2022/07202) and the survey forms part of an archaeological assessment.

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 new access track. The methodology is considered an efficient and effective approach to archaeological prospection.

1.2.2 Geophysical survey can provide useful information on the archaeological potential of a site; however, the outcome of any survey relies on a number of factors and as a consequence results can vary. The success in meeting the aims and objectives of a survey is, therefore, often impossible to predetermine.

1.3 Standards, guidance and recommendations for the use of this report

1.3.1 Archaeological Surveys Ltd is a Registered Organisation with the Chartered Institute for Archaeologists and both company directors are Members of the Chartered Institute for Archaeologists (MCIfA) and have therefore been assessed for their technical competence and ethical suitability and abide by the CIfA Codes of Conduct. The survey and report follow the recommendations set out by: European Archaeological Council (2015) *Guidelines for the Use of Geophysics in Archaeology;* 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, updated 2020) *Standard and Guidance for Archaeological Geophysical Survey.*

1.3.2 Archaeological Surveys Ltd provide a detailed geophysical survey report and it is recommended that where possible the contents should be considered in full. The Summary provides a brief overview of the results with more detail available in the Discussion and/or Conclusion. The *List of anomalies* within the Results provides a detailed assessment of the anomalies within separate categories which can be useful in inferring a level of confidence to the interpretation. Quality and factors influencing the interpretation of anomalies is also set out within the results.

1.3.3 It is recommended that the full report should always be considered when using data and interpretation plots; where this is not possible, in the field for example, the abstraction and interpretation plots should retain their colour coding and be used with a corresponding legend.

1.3.4 Where targeting of anomalies by excavation is to be carried out, care should be taken to place trenches over solid lines or features visible on the abstraction and interpretation plots. Archaeological Surveys abstraction and interpretation avoids the use of dashed or dotted line formats, and broken or fragmented lines used in interpretive plots may well correspond closely with truncation of archaeological features.

1.4 Site location, description and survey conditions

1.4.1 The site is located on land to the north west of Euridge Manor Farm, Colerne in Wiltshire. It consists of a corridor generally between 45m and 60m wide and 850m long situated between Ordnance Survey National Grid Reference (OS NGR) ST 83173 72155 in the south and ST 82927 72883 in the north, see Figs 01 and 02.

1.4.2 The geophysical survey covers approximately 3.9ha within the survey corridor. Areas 1 and 2 in the southern and central part of the site include a narrow strip of rough cover in the west, which is outlined for the location of the proposed track, together with a wider strip of pasture within the field to the east. The two strips of survey are separated by a post and wire net fence. Area 3 located at the northern end of the site was also within a grass field.

1.4.3 The survey corridor is located on sloping ground between approximately 135m and 125m AODN along the eastern and western sides of the survey within Areas 1 and 2 respectively, and at approximately 145m AODN along much of Area 3. The land tends to fall steeply towards the south west beyond the western limit of the corridor.

1.4.4 The ground conditions across the site were generally considered to be

favourable for the collection of magnetometry data, the rough cover within Areas 1 and 2 was cut back to allow access. Weather conditions during the survey were fine.

Plate 1: Survey Area 1 looking north west with proposed track location in rough area beyond fence

1.5 Site history and archaeological potential

1.5.1 The survey corridor lies between two settlements with medieval origins, with Thickwood 100m to the west of the northern end of the corridor and Euridge, situated 120m to the south east of the southern end of the survey corridor. The remains of a Roman villa complex have been recorded during excavation in the 1950s and geophysical survey in the 1990s approximately 500m to the south south east.

1.6 Geology and soils

1.6.1 The underlying geology is limestone from the Chalfield Oolite Formation (BGS, 2022).

1.6.2 The overlying soil across the site is from the Elmton 1 association (343a) and is a brown rendzina. It consists of a shallow, well drained, brashy, calcareous, fine, loamy soil over limestone (Soil Survey of England and Wales, 1983).

1.6.3 Magnetometry carried out over similar geology and soil has produced good results, although at times it can be difficult to distinguish naturally formed features from those with an anthropogenic origin. The site is, therefore, considered suitable for magnetic survey.

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 (also known as thermoremanence) are factors associated with the formation of localised magnetic fields.

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 positive magnetic anomalies that can be mapped by magnetic prospection. In addition, where soil is displaced by material of comparatively low magnetic susceptibility, such as many types of sedimentary rock, anomalies of negative value may occur which could be indicative of structural remains.

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). Additional details are set out in 2.2 below and within Appendix A.

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 (FGM650) spaced 0.5m apart with readings recorded at 20Hz. The cart is pushed at walking speed and not towed. Each sensor is not zeroed in the field as the vertical axis alignment is precisely fixed leaving sensor offsets that are removed during data processing. The fixing of the vertical alignment ensures the sensors are not unduly influenced by localised magnetic fields and that the vertical component of a magnetic anomaly is measured. The gradiometers have a measurement range of ±8000nT, although the recorded range is ±3000nT, and resolution is approximately 0.1nT. They are linked to a Leica GS10 RTK GNSS with data recorded by SENSYS MonMX software on a rugged notebook computer system.

2.2.2 Due to the fixed offsets within the fluxgate sensors, as a result of the manufacturing and tensioning process, the survey data do not provide a visually useful dataset

until a zero median traverse algorithm is applied. It is recognised that this has the potential to affect some anomalies detrimentally by removing linear features orientated parallel to survey transects. However, this has not been noted as a particular problem with the system due to the high resolution data collection, generally long length of traverses and variability within the magnetic characteristics of a linear anomaly.

2.2.3 Data are collected along a series of parallel survey transects to achieve 100% coverage of the surveyable land. 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. Data are not collected within fixed grids and data points are considered to be random even though the data are collected in a systematic manner covering all accessible areas (Aspinall, Gaffney and Schmidt, 2009).

2.2.4 Fluxgate sensors are highly sensitive to temperature change and this manifests as drift during the course of a survey. This can be particularly noticeable during the morning as temperatures rise and the equipment warms or cools. Sensor drift within the course of a traverse will appear as a line trending from negative to positive after processing with a zero median traverse algorithm. To remove the potential for temperature drift, data were collected after a 20 minute stabilisation period and traverses were limited to a time of generally <100s.

2.3 Data processing and presentation

2.3.1 Magnetic data collected by the MAGNETO® MXPDA cart-based system are initially prepared using SENSYS MAGNETO® DLMGPS software. The software effectively allocates a geographic position for each data point and can compensate for fixed offsets present within the FGM650 sensors. The offsets are positive or negative values present on all fluxgate gradiometer sensors. Some systems use manual or electronic balancing to effectively zero the sensors; however, this is a short term measure that is prone to drift through temperature changes and vibration and can easily be incorrectly set due to localised magnetic fields. The FGM650 sensors are very accurately aligned to the vertical magnetic gradient and are highly stable showing negligible drift on long traverses. The offset values are removed using TerraSurveyor software.

2.3.2 Survey tracks are analysed and georeferenced raw data (UTM Z30N) are then exported in ASCII format for further analysis and display within TerraSurveyor. The removal of the offset values (compensation) of the sensors is also carried out in TerraSurveyor using a zero median traverse function. Data are then considered to be minimally processed. Note: without the zero median traverse function it is not possible to create a meaningful data plot as all sensors have a different offset value.

2.3.3 The minimally processed data are collected between limits of ±3000nT and

clipped for display at ±5nT. Data are interpolated to a resolution of effectively 0.5m between tracks and 0.15m along each survey track.

2.3.4 Appendix C contains metadata concerning the survey and data attributes and is derived directly from TerraSurveyor. Reference should be made to Appendix B for further information on processing.

2.3.5 A TIF 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. Minimally processed data are considered by the manufacturer to be data that are compensated by SENSYS MAGNETO DLMGPS software, see 2.3.1 and 2.3.2. Note: traceplots are not considered to be appropriate as they do not provide an accurate or useful assessment of the magnetic anomalies due to the very high density of data collection. In addition, traceplots cannot be meaningfully plotted against base mapping and in areas of complexity traces may be lost or highly confused. Traceplots may be used to demonstrate characteristic magnetic profiles across discrete features where it is considered beneficial.

2.3.6 The raster images are combined with base mapping using ProgeCAD Professional 2021, creating DWG (2018) 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 GNSS, resection method, etc.

2.3.7 An abstraction and interpretation is drawn and plotted for all geophysical anomalies located by the survey. Anomalies are abstracted using colour coded points, lines and polygons. All plots are scaled to landscape A3 for paper printing. Appendix E sets out CAD layer names with colour and graphic content for each interpretation category, see 3.3.

2.3.8 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.

2.3.9 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 3.9ha.

3.1.2 Magnetic anomalies located can be generally classified as positive anomalies

of an uncertain origin, anomalies with a natural origin linear anomalies of an agricultural origin, areas of magnetic disturbance, strong discrete dipolar anomalies relating to ferrous objects and strong multiple dipolar linear anomalies relating to buried services or pipelines. Anomalies located within each survey area have been numbered and are described in 3.4 to 3.6 below.

3.2 Data quality and factors affecting the interpretation or formation of anomalies

3.2.1 Data are considered representative of the magnetic anomalies present within the site. There are no significant defects within the dataset.

3.2.2 Magnetic contrast between the topsoil and subsoil/solid geology is strong and typical of sites on ooltic limestone. Numerous pit-like anomalies have been located and the majority will relate to naturally formed features; however, it may not be possible to separate naturally formed anomalies from those with an anthropogenic origin, in addition, naturally formed pit-like features may be utilised by humans. The data also contain fine linear anomalies associated with cultivation.

3.2.3 Magnetic disturbance is minimal and confined to the immediate vicinity of wire mesh fencing with a larger zone in the southern part of Area 1 caused by a steel-framed barn immediately west of the survey area.

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 general explanation of the characteristics of the magnetic anomalies is set out for each category in order to justify interpretation, see Table 1.

Interpretation category	Description and origin of anomalies
Anomalies with an uncertain origin	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. Morphology may be unclear or uncharacteristic and there may be a lack of additional supporting information. 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 associated with magnetic debris	Strong discrete dipolar anomalies are responses to ferrous objects within the topsoil.
Anomalies with a modern origin	The magnetic response is often strong and dipolar indicative of ferrous material and may be associated with extant above surface features such as wire fencing, cables, pylons etc. Often a significant area around these features has a strong magnetic flux which may create magnetic disturbance; such disturbance can effectively obscure low magnitude anomalies if they are present. Fluxgate sensors may respond erratically adjacent to strong magnetic sources. Buried services may produce characteristic multiple dipolar anomalies dependant upon their construction.
Anomalies with a natural origin	Naturally formed magnetic anomalies 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 distinguish 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 383120 172217, see Figs 02 & 03.

Anomalies with an uncertain origin

(1) – Two positive linear anomalies appear to form a Y-shaped feature. It is not clear if they are associated with former agricultural activity, rilling caused by water erosion or if they relate to cut features; however, the southernmost anomaly appears to be associated with two strongly magnetic (7-20nT) pit-like anomalies.

(2) – A small number of short, positive linear and discrete anomalies are located in the north western part of Area 1. Their origin cannot be confidently interpreted.

(3) – A strongly magnetic anomaly is located in the north eastern corner of Area 1. The strength of the response could indicate an association with burnt material (c15nT), but a natural origin is also possible.

Anomalies with a natural origin

(4) – Weakly positive (3-4nT) discrete anomalies relate to soil-filled, naturally formed features within the underlying limestone geology.

Anomalies with a modern origin

(5) – Magnetic disturbance from fences and a steel-framed barn situated to the south west of the survey area.

3.5 List of anomalies - Area 2

Area centred on OS NGR 383017 172407, see Figs 02 & 03.

Anomalies with an uncertain origin

(6) – Weakly positive linear anomalies cannot be confidently interpreted as cut features and an association with former agricultural activity is possible.

Anomalies with a natural origin

(7) – Area 2 contains widespread and numerous discrete positive anomalies. These relate to natural features, such as tree throw pits.

Anomalies with an agricultural origin

(8) – A series of parallel linear anomalies relate to agricultural activity.

3.6 List of anomalies - Area 3

Area centred on OS NGR 382964 172714, see Figs 02 & 04.

Anomalies with an uncertain origin

(9) – Two broad, positive linear anomalies are located close to the north western corner of Area 3. They are situated on the eastern side and at the head of a shallow valley that extends to the south west. It is possible that they relate to bands within the underlying geology; however, they may be associated with a former trackway/holloway, but they also pass close to an inspection chamber within the field and could, therefore, be related to services.

(10) – A positive linear anomaly appears to relate to a curvilinear feature in the north eastern part of the survey area. It also appears to be associated with discrete, pit-like anomalies, although whether they are of natural or anthropogenic origin is uncertain.

(11) – Discrete zones of magnetic enhancement can be seen in the northern part of Area 3. While such responses can relate to cut features or areas of quarrying, it is possible that they relate to naturally formed, soil-filled features within the underlying limestone.

(12) – A number of discrete positive responses can be seen towards the centre of the survey area. Although it is possible that they relate to cut, pit-like features, an association with naturally formed features, such as tree-throw pits and solution features should be considered.

Anomalies with a natural origin

(13) – Widespread and numerous discrete positive responses relate to natural features.

Anomalies with a modern origin

(14) – A positive linear anomaly crosses the width of the survey area in the southern part of Area 3. Although the response could suggest a cut, ditch-like feature, a strong, discrete, dipolar anomaly is situated on the junction of where it changes direction slightly and this appears to suggest that the linear feature is a buried service.

(15) – A strong, multiple dipolar linear anomaly extends across the centre of Area 3

and relates to a buried service. A similar response is located at the north western edge of the survey area.

4 CONCLUSION

4.1.1 The geophysical survey located a number of positive linear and discrete responses, but they generally lack a coherent morphology and cannot be confidently interpreted. Two parallel anomalies in the north western corner of the site are situated at the head of a valley, but it is not clear if they relate to natural bands within the underlying geology or if they have an association with features such as a former trackway/holloway or services. Numerous discrete and amorphous responses have been located within the site and the majority appear to relate to naturally formed features, such as tree-throw pits and solution holes.

5 REFERENCES

Aspinall, A., Gaffney, C. and Schmidt, A. 2009. *Magnetometry for Archaeologists*. Lanham (US), AltaMira Press.

British Geological Survey, 2022. *Geology Viewer, [online]* available from https://geologyviewer.bgs.ac.uk [accessed 1/12/2022].

Chartered Institute for Archaeologists, 2014 (updated 2020). *Standard and Guidance for archaeological geophysical survey*. CIfA, University of Reading.

European Archaeological Council, 2015. *EAC Guidelines for the Use of Geophysics in Archaeology: Questions to Ask and Points to Consider.* Europae Archaeologia Consilium and Association Internationale sans But Lucratif, Belgium.

Historic England, 2018. Geophysical Survey Advice [online] available from https://historicengland.org.uk/advice/technical-advice/archaeological-science/geophysics/ [accessed July 2018].

Institute for Archaeologists, 2002. *The use of Geophysical Techniques in Archaeological Evaluations*. IfA Paper No. 6. IfA, University of Reading.

Schmidt, A., 2013. *Geophysical Data in Archaeology: A Guide to Good Practice.* Oxbow Books.

Soil Survey of England and Wales, 1983. *Soils of England and Wales, Sheet 5 South West England.*

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 magnetic field. The difference between the two sensors will relate to the strength of 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. Different ranges are applied to data in order to determine the most suitable for anomaly abstraction and display.

Zero Median/Mean Traverse

The median (or mean) of data from each traverse is calculated ignoring data outside a threshold value, the median (or mean) is then subtracted from the traverse. The process is used to equalise differences between the offset values of the gradiometer sensors. The process can remove archaeological features that run along a traverse but with the high resolution datasets created by the Sensys FGM650 sensors and the method of data collection this has not been a notable problem. In fact, the removal of offsets using software avoids carrying out a balancing procedure on site, which inevitably can never be done in magnetically clean conditions and results in improperly aligned fluxgate sensors and/or electronic adjustment values.

Appendix C – survey and data information

Area 1 minimally processed data

Filename: J942-mag-Area1-proc.xcp
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y):OSGB36
Northwest corner: 383033.01, 172302.28 m
Southeast corner: 383194.41, 172137.28 m
Collection Method: Randomised
Sensors: 5
Dummy Value: 32702
Dimensions
Survey Size (meters): 161 m x 165 m
X&Y Interval: 0.15 m
Source GPS Points: Active: 242574, Recorded: 242579
Stats
Max: 5.53
Min: -5.50
Std Dev: 1.94
Mean: 0.07
Median: -0.01
Composite Area: 2.6631 ha
Surveyed Area: 0.85868 ha
PROGRAM
Name: TerraSurveyor
Version: 3.0.37.0
GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (UTM to OSGB36).
3 DeStripe Median Traverse:
4 Clip from -10.00 to 10.00 nT
5 Clip from -5.00 to 5.00 nT

Area 2 minimally processed data

Filename: J942-mag-Area2-proc.xcp
Northwest corner: 382958.87, 172560.12 m
Southeast corner: 383064.62, 172264.02 m
Dimensions
Survey Size (meters): 106 m x 296 m
X&Y Interval: 0.15 m
Source GPS Points: Active: 470370, Recorded: 470375
Stats
Max: 5.53
Min: -5.50
Std Dev: 1.74
Mean: 0.09
Median: 0.00
Composite Area: 3.1313 ha
Surveyed Area: 1.6049 ha
GPS based Proce4
1 Base Layer.
2 Unit Conversion Layer (UTM to OSGB36).
3 DeStripe Median Traverse:
4 Clip from -5.00 to 5.00 nT

Area 3 minimally processed data

Filename: J942-mag-Area3-proc.xcp
Northwest corner: 382887.49, 172895.94 m
Southeast corner: 383034.94, 172543.29m
Dimensions
Survey Size (meters): 147 m x 353 m
X&Y Interval: 0.15 m
Source GPS Points: Active: 480678, Recorded: 480683
Stats
Max: 5.53
Min: -5.50
Std Dev: 2.11
Mean: 0.01
Median: 0.02
Composite Area: 5.1998 ha
Surveyed Area: 1.5976 ha
GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (UTM to OSGB36).
3 DeStripe Median Traverse:
4 Clip from -10.00 to 10.00 nT
5 Clip from -5.00 to 5.00 nT

Appendix D – digital archive

Archaeological Surveys Ltd hold the primary digital archive at their offices in Wiltshire. 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.

A PDF copy will be supplied to the Wiltshire Historic Environment Record with greyscale images and abstraction layers made available on request. The report will also be uploaded to the Online AccesS to the Index of archaeological investigationS (OASIS).

Archive contents:

File type	Naming scheme	Description
Data	J942-mag-**[area number/name]**.asc J942-mag-**[area number/name]**.xcp J942-mag-**[area number/name]**-proc.xcp	Raw data as ASCII CSV TerraSurveyor raw data TerraSurveyor minimally processed data
Graphics	J942-mag-**[area number/name]**-proc.tif	Image in TIF format
Drawing	J942-**[version number]**.dwg	CAD file in 2018 dwg format
Report	J942 report.odt	Report text in LibreOffice odt format

Table 2: Archive metadata

Appendix E – CAD layers for abstraction and interpretation plots

The table below sets out Archaeological Surveys Ltd CAD layer names with associated colours and graphical content. Where CAD files are available layers may be extracted for further CAD/GIS use. Note: hatched polygon boundaries are contained within layers with the RGB colour code 254, 255, 255 (near white) in order to prevent their visibility.

Report sub-heading and associated CAD layer names	Colour with RGB index	Layer content
Anomalies with an uncertain origin		

AS-ABST MAG POS LINEAR UNCERTAIN	255,127,0	Line, polyline or polygon (solid)
AS-ABST MAG NEG LINEAR UNCERTAIN	Blue 0,0,255	Line, polyline or polygon (solid)
AS-ABST MAG POS DISCRETE UNCERTAIN	255,127,0	Solid donut, point or polygon (solid)
AS-ABST MAG POS UNCERTAIN	255,127,0	Polygon (cross hatched ANSI37)
Anomalies with an agricultural origin		
AS-ABST MAG AGRICULTURAL	Green 0,255,0	Line or polyline
Anomalies associated with magnetic debris		
AS-ABST MAG STRONG DIPOLAR	132, 132, 132	Solid donut, point or polygon (solid)
Anomalies with a modern origin		
AS-ABST MAG DISTURBANCE	132, 132, 132	Polygon (hatched ANSI31)
AS-ABST MAG SERVICE	132, 132, 132	Line or polyline
Anomalies with a natural origin		
AS-ABST MAG NATURAL FEATURES	204,178,102	Polygon (cross hatched ANSI37)

Table 3: CAD layering

Appendix F – copyright and intellectual property

This report may contain material that is non-Archaeological Surveys Ltd copyright (eg Ordnance Survey, Crown Copyright) or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Archaeological Surveys Ltd. Users remain bound by the conditions of the Copyright, Design and Patents Act 1988 with regard to multiple copying and electronic dissemination of this report.

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Archaeological Surveys
Specialist Geophysical Surveyors

Geophysical Survey
Proposed access track
Euridge Manor Farm
Colerne
Wiltshire

Map of survey area

Survey location

Site located between OS NGR
ST 83173 72155 & ST 82927 72883

SCALE 1:25 000

0m 500m 1000m

SCALE TRUE AT A3

DRAWN BY	CHECKED BY	
KTD	DJS	FIG 01

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Proposed access track
Euridge Manor Farm
Colerne
Wiltshire

Referencing information & proposed track location

Referencing information

Greyscale plot of magnetometer data & proposed track location

Abstraction & proposed track location

N

Area 1
Area 2
Area 3

Referencing grid to OSGB36 datum at 50m intervals

383000 172500

Survey tracks

Survey track start

Survey track stop

Proposed access track

SCALE 1:3000

0m 20 40 60 80 100m

SCALE TRUE AT A3

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KTD	DJS	FIG 02

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Proposed access track
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Colerne
Wiltshire

Greyscale plot of processed magnetometer data

Area 2

Area 1

-5nT Area 1 +5nT

-5nT Area 1 +5nT

+5nT

-5nT

Abstraction & interpretation of magnetic anomalies

N

Area 2

6

7

8

3

2

1

5

4

Area 1

Greyscale plot of processed magnetometer data & abstraction & interpretation of magnetic anomalies - Areas 1 & 2

- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Discrete positive response - possible pit-like feature
- Discrete positive response - of natural origin
- Magnetic disturbance from ferrous material
- Strong dipolar anomaly - ferrous object

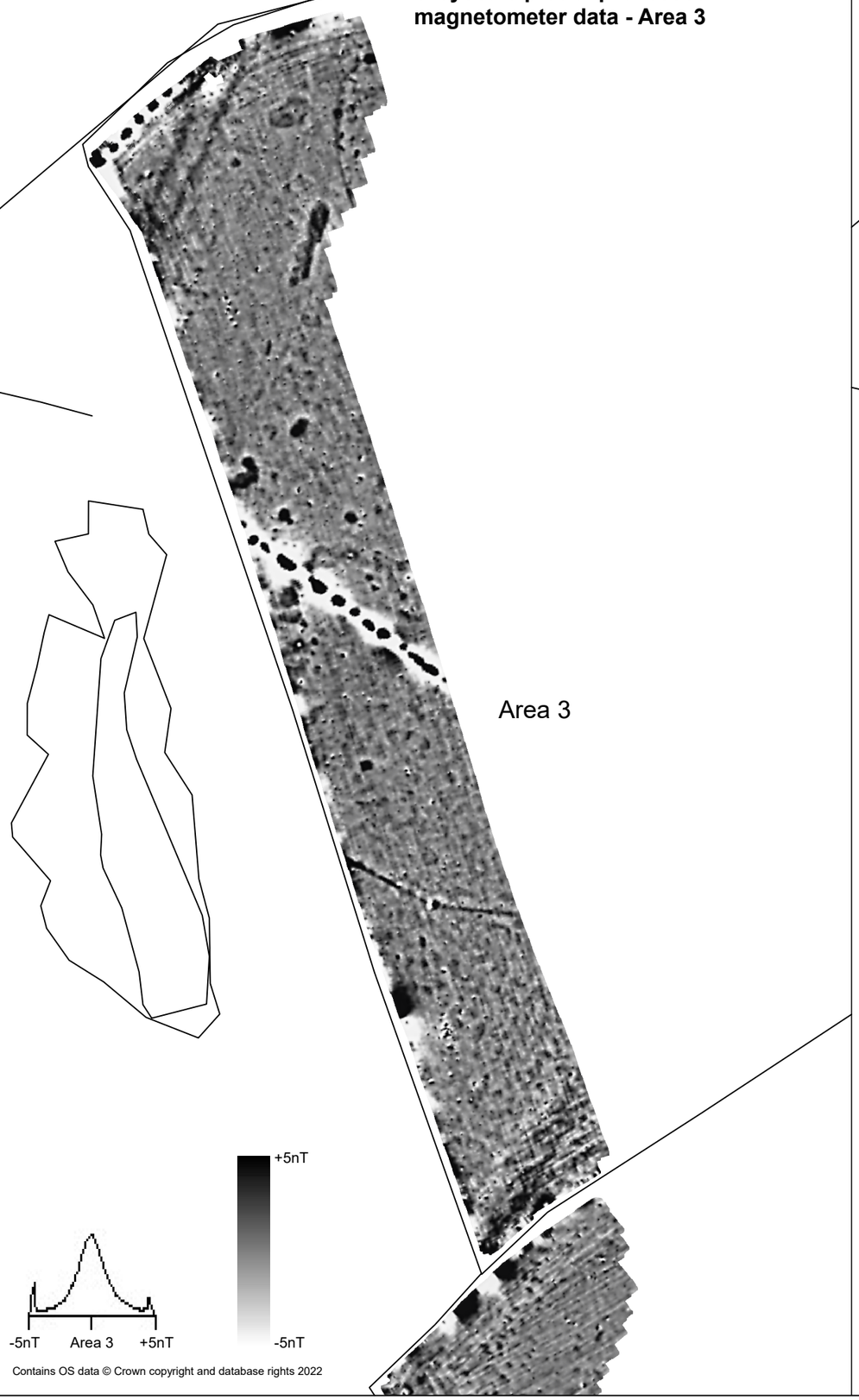
SCALE 1:1500

0m 10 20 30 40 50m

SCALE TRUE AT A3

DRAWN BY	CHECKED BY	
KTD	DJS	FIG 03

Greyscale plot of processed magnetometer data - Area 3



Abstraction & interpretation of magnetic anomalies - Area 3

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Geophysical Survey
Proposed access track
Euridge Manor Farm
Colerne
Wiltshire

Greyscale plot of processed magnetometer data & abstraction & interpretation of magnetic anomalies - Area 3

- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Discrete positive response - possible pit-like feature
- Discrete positive response - of natural origin
- Positive anomaly - magnetic enhancement of uncertain origin
- Magnetic disturbance from ferrous material
- Strong dipolar anomaly - ferrous object

SCALE 1:1500

0m 10 20 30 40 50m

SCALE TRUE AT A3

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KTD	DJS	FIG 04