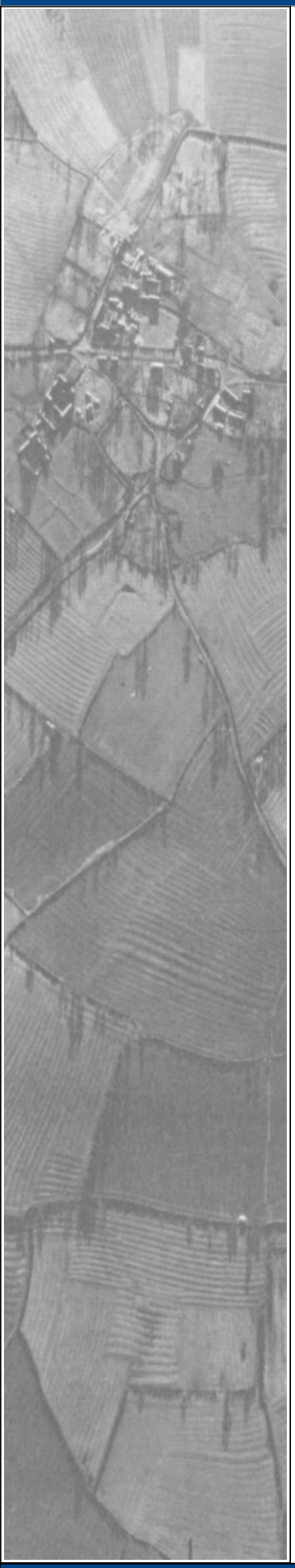

Land off Braydon Lane
Chelworth Industrial Estate
Cricklade
Wiltshire

MAGNETOMETER SURVEY REPORT

for

Bel Ombre Properties Ltd

Kerry Donaldson & David Sabin

July 2022

Ref. no. J923

ARCHAEOLOGICAL SURVEYS LTD

Land off Braydon Lane
Chelworth Industrial Estate
Cricklade
Wiltshire

MAGNETOMETER SURVEY REPORT

for

Bel Ombre Properties Ltd

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 date – 12th July 2022
Ordnance Survey Grid Reference – **SU 08005 92280**

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SUMMARY

A geophysical survey, comprising detailed magnetometry, was carried out within a single field near Chelworth Industrial Estate, Cricklade. The results indicate the presence of a number of very weakly positive linear anomalies that appear to have been truncated by agricultural activity and a number of more magnetically enhanced discrete, pit-like responses that could relate to anthropogenic features, although a natural origin is also possible.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by Bel Ombre Properties Ltd to undertake a magnetometer survey of an area of land off Braydon Lane and adjacent to Chelworth Industrial Estate, Cricklade, Wiltshire. The site has been outlined for a proposed industrial/warehouse development (Wiltshire planning application no: PL2022/01840) 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 site. 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 off Braydon Lane, just south west of Chelworth Industrial Estate, Cricklade, Wiltshire. It is centred on Ordnance Survey National Grid Reference (OS NGR) SU 08005 92280, see Figs 01 and 02.

1.4.2 The magnetometry covers approximately 2.6ha within a single grassland field that had been mown prior to survey. The field margins and hedgerows were overgrown and survey was impeded around the perimeter of the area. The eastern part of the field was unsurveyable as it contained an area of bulrushes and waterlogged ground. The central western part of the field is slightly more elevated with land sloping down gently towards the east. Industrial buildings are located to the north and east of the area with solar arrays to the south and agricultural land to the west.

1.4.3 The ground conditions across the site were generally considered to be favourable for the collection of magnetometry data. Weather conditions during the survey were fine.

Plate 1: Survey area prior to mowing looking north west

1.5 Site history and archaeological potential

1.5.1 The site lies 225m north west of the medieval scheduled monument *Moated site and surrounding earthwork enclosure, 100m south of Chelworth Farm* (Historic England list entry no: 1013353) and immediately north of the former RAF Blakehill Farm, opened in 1944 as an airfield used to support the planned invasion of Europe and utilised by GCHQ from the 1960s to 1990s as an experimental radio and monitoring station.

1.5.2 Although there are no designated or undesignated heritage assets within the site, it lies close to a medieval moated site with further evidence for medieval settlement within the wider vicinity.

1.6 Geology and soils

1.6.1 The underlying solid geology across the site is mudstone from the Oxford Clay Formation (BGS, 2017). The overlying soil across the survey area is from the Denchworth association and is a pelo-stagnogley which consists of a slowly permeable, seasonally waterlogged, clayey soil (Soil Survey of England and Wales, 1983).

1.6.2 The underlying geology and soils are frequently associated with low magnetic contrast and low levels of magnetic susceptibility. However, cut features of archaeological potential may be located where human activity has altered the magnetic characteristics of the soil sufficiently. The underlying geology and soils are, therefore, considered acceptable 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 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 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). 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 around 0.1nT. They are linked to a Leica GS10 RTK GNSS with data recorded by SENSYS MAGNETO®MXPDA software on a rugged PDA 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. Although a zero median traverse algorithm can remove anomalies aligned with the survey tracks, in practice this rarely occurs due to the use of long traverses, high resolution measurement and variability within the magnetic susceptibility of long linear features.

2.3.3 The minimally processed data are collected between limits of ±3000nT and clipped for display at ±3nT. Data are interpolated to a resolution of effectively 0.5m between tracks and 0.15m along each survey track.

2.3.4 Additional data processing has been carried out in the form of high pass filtering. This effectively removes low frequency variation along a traverse that has been caused by large magnetic bodies, cultivation or rapid temperature change. Data treated to additional processing have been compared to unprocessed data to ensure that no significant anomalies have been removed.

2.3.5 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.

2.3.6 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. With regard to the Sensys MXPDA, 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.

2.3.7 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.

2.3.8 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.

2.3.9 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 the survey area.

2.3.10 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 2.6ha within a single grassland field.

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

3.2 Statement of data quality and factors influencing the interpretation 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 High magnitude magnetic disturbance along the north eastern edge of the survey area has been caused by steel structures associated with industrial activity to the north east of the site. The disturbance has been suppressed with additional high pass filtering. Both filtered and unfiltered data are shown and analysed as the additional processing may alter or remove other more significant anomalies. Several weak linear anomalies crossing the northern part of the field from south west to north east have been removed by the processing, and it is possible that these relate to former ridge and furrow cultivation evident as very low earthworks; however, some could also have been caused by the magnetic disturbance which may produce small sensor offsets that run along the traverse direction.

3.2.3 The survey has located linear and discrete anomalies that infer the potential for the formation of useful magnetic contrast within the soil.

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 relating to land management	Anomalies are mainly linear and may be indicative of the magnetically enhanced fill of cut features (i.e. ditches). The anomalies may be long and/or form rectilinear elements and they may relate to topographic features or be visible on early mapping. Associated agricultural anomalies (e.g. headlands, plough marks and former ridge and furrow) may support the interpretation. 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 ceramic land drains.
Anomalies with an agricultural origin	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. This category does not include agricultural features of early date or considered to be of archaeological potential (e.g. animal stockades, enclosures, farmsteads, etc).
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.

Table 1: List and description of interpretation categories

3.4 List of anomalies

Area centred on OS NGR 408005 192280, see Figs 03 – 05.

Anomalies with an uncertain origin

(1 & 2) – A fragmented positive linear anomaly could be associated with further fragmented curvilinear anomalies to the south east forming a possible P-shaped enclosure.

(3) – A positive linear anomaly appears to have been truncated by agricultural activity and may relate to a cut, ditch-like feature.

(4) – The south eastern part of the site contains a number of discrete positive anomalies. They have a response of 10-15nT which indicates levels of magnetic enhancement that could be derived from anthropogenic activity. However, areas that are subject to episodes of periodic waterlogging and drying can also be associated with similar responses and their origin is, therefore, uncertain.

Anomalies associated with land management

(5) - A linear anomaly extends across the southern part of the survey area and corresponds to an extant linear drainage ditch.

Anomalies with an agricultural origin

(6) – A series of parallel linear anomalies in the north western part of the site relate to agricultural activity, possibly ridge and furrow as there is some evidence of very low linear earthworks running south west to north east across the field. However,

some may be associated with linear data artefacts caused by the magnetic disturbance along the north eastern edge of the survey area (see 3.2.2).

(7) – A series of linear anomalies, parallel with the north eastern and south western field boundaries relate to agricultural activity.

Anomalies associated with magnetic debris

(8) – Strong, discrete, dipolar anomalies are a response to ferrous objects in the topsoil.

Anomalies with a modern origin

(9) – Magnetic disturbance from ferrous material within and surrounding the site.

4 CONCLUSION

4.1.1 Detailed magnetometry located a number of what appears to be fragmented linear anomalies that have been truncated by agricultural activity. The response is weak and the fragmented morphology prevents confident interpretation, but it is possible that they relate to former cut features. Discrete positive anomalies have a stronger response, and although this may indicate pit-like features with an anthropogenic origin, a natural origin should also be considered. Other anomalies relate to an extant drainage gully and agricultural activity.

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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 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.

High Pass Filter

Removes low frequency anomalies within the data that are not considered to be archaeologically significant and may be natural in origin. A window passes over the data, the mean of all the data within the window is subtracted from the centre value. The size of the window is adjusted as is the weighting which may be uniform or Gaussian. The process is used to improve the visibility of anomalies of interest.

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

Minimally processed data
Filename: J923-mag-proc.xcp
Description: Imported as Composite from: J923-mag.asc
Instrument Type: Sensys DLMGPS
Units:
UTM Zone: 30U
Survey corner coordinates (X/Y):OSGB36
Northwest corner: 407884.27, 192381.13 m
Southeast corner: 408111.47, 192182.09 m
Collection Method: Randomised
Sensors: 5
Dummy Value: 32702
Dimensions
Survey Size (meters): 227 m x 199 m
X&Y Interval: 0.16 m
Source GPS Points: Active: 4147943, Recorded: 4147943
Stats
Max: 3.32
Min: -3.30
Std Dev: 0.90
Mean: 0.01
Median: 0.01
Composite Area: 4.5222 ha
Surveyed Area: 2.7327 ha
PROGRAM
Name: TerraSurveyorPre
Version: 3.0.36.24
GPS based Proce4
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -3.00 to 3.00

Filtered data
Filename: J923-mag-proc-hpf.xcp
Stats
Max: 3.32
Min: -3.30
Std Dev: 0.76
Mean: 0.00
Median: 0.00
GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 High pass Uniform (median) filter: Window dia: 250
5 Clip from -3.00 to 3.00

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	J923-mag-**[area number/name]**.asc J923-mag-**[area number/name]**.xcp J923-mag-**[area number/name]**-proc.xcp	Raw data as ASCII CSV TerraSurveyor raw data TerraSurveyor minimally processed data
Graphics	J923-mag-**[area number/name]**-proc.tif	Image in TIF format
Drawing	J923-**[version number]**.dwg	CAD file in 2018 dwg format
Report	J923 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 POS DISCRETE UNCERTAIN		255,127,0	Solid donut, point or polygon (solid)
Anomalies relating to land management			
AS-ABST MAG BOUNDARY		127,0,0	Line, polyline or polygon (solid or cross hatched ANSI37)
AS-ABST MAG DRAIN		0,153,204	Line or polyline

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)

Table 3: CAD layering

Appendix F – copyright and intellectual property

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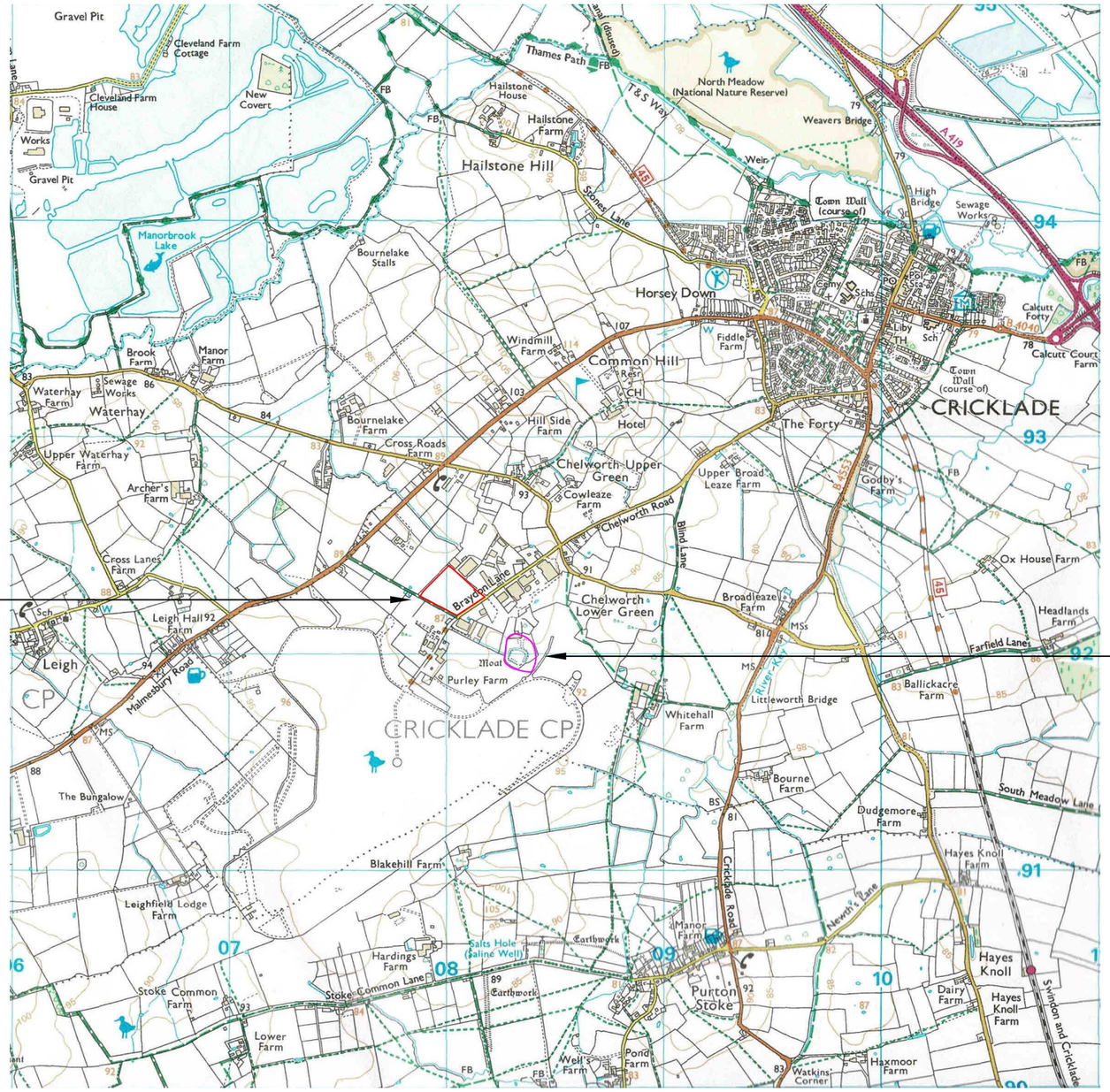
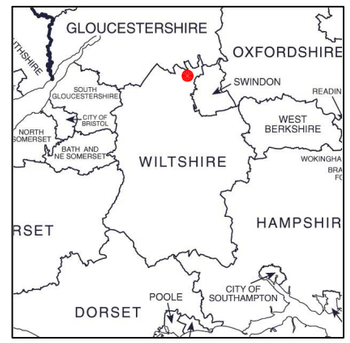
Cricklade
Wiltshire

Map of survey area





● Survey location

Site centred on OS NGR
SU 08005 92280

SCALE 1:25 000

0m 500m 1000m

SCALE TRUE AT A3

DRAWN BY	CHECKED BY	
KTD	DJS	FIG 01

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Referencing information

407900 407950 408000 408050 408100 408150

192400 192350 192300 192250 192200 192150

N

Referencing grid to OSGB36 datum at 50m intervals

408000 192300

Survey tracks

Survey track start

Survey track stop

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

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KTD	DJS	FIG 02

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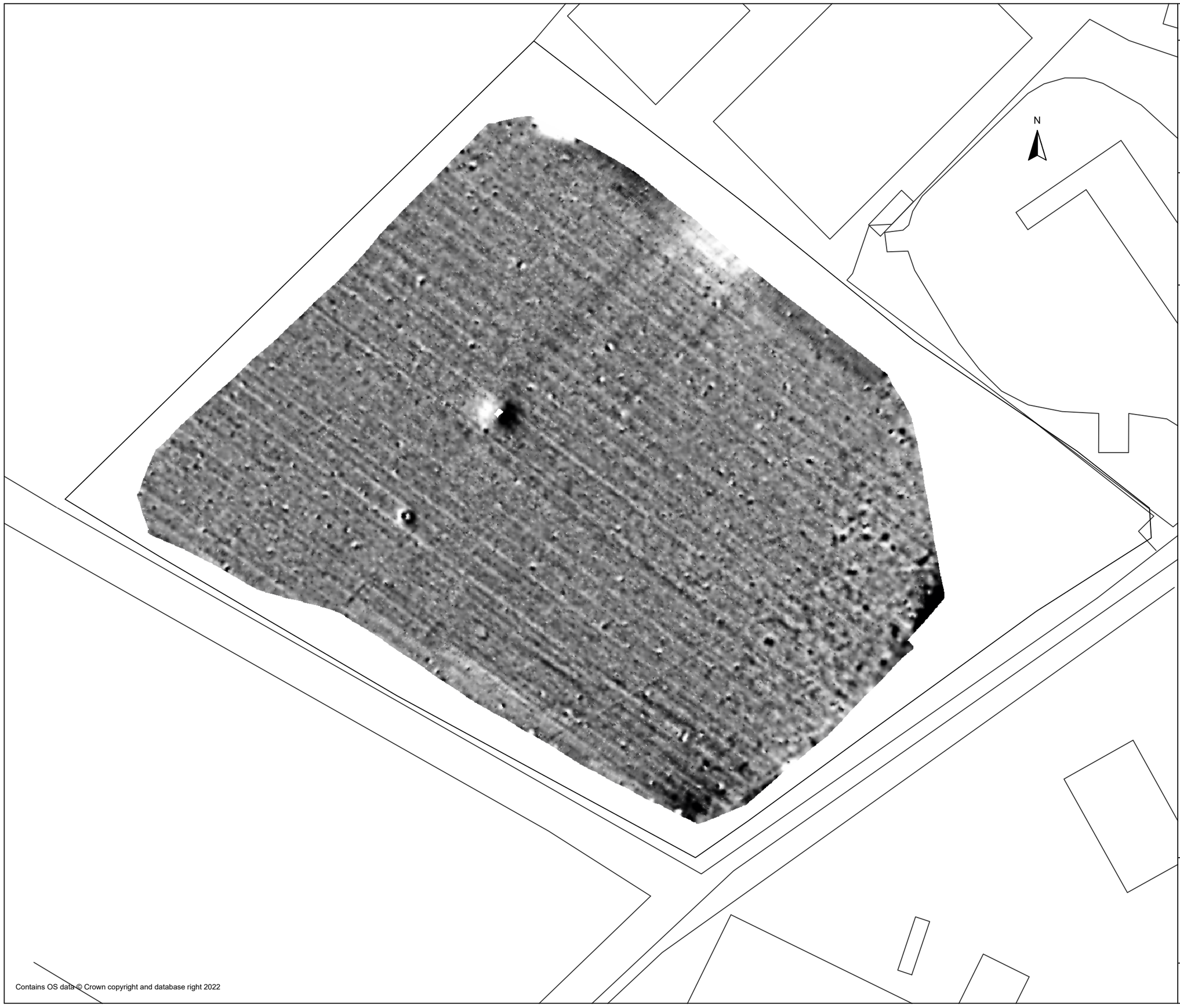
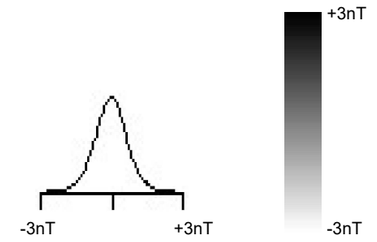
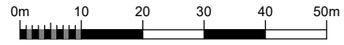
Greyscale plot of minimally processed magnetometer data





SCALE 1:1000



SCALE TRUE AT A3

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KTD	DJS	FIG 03

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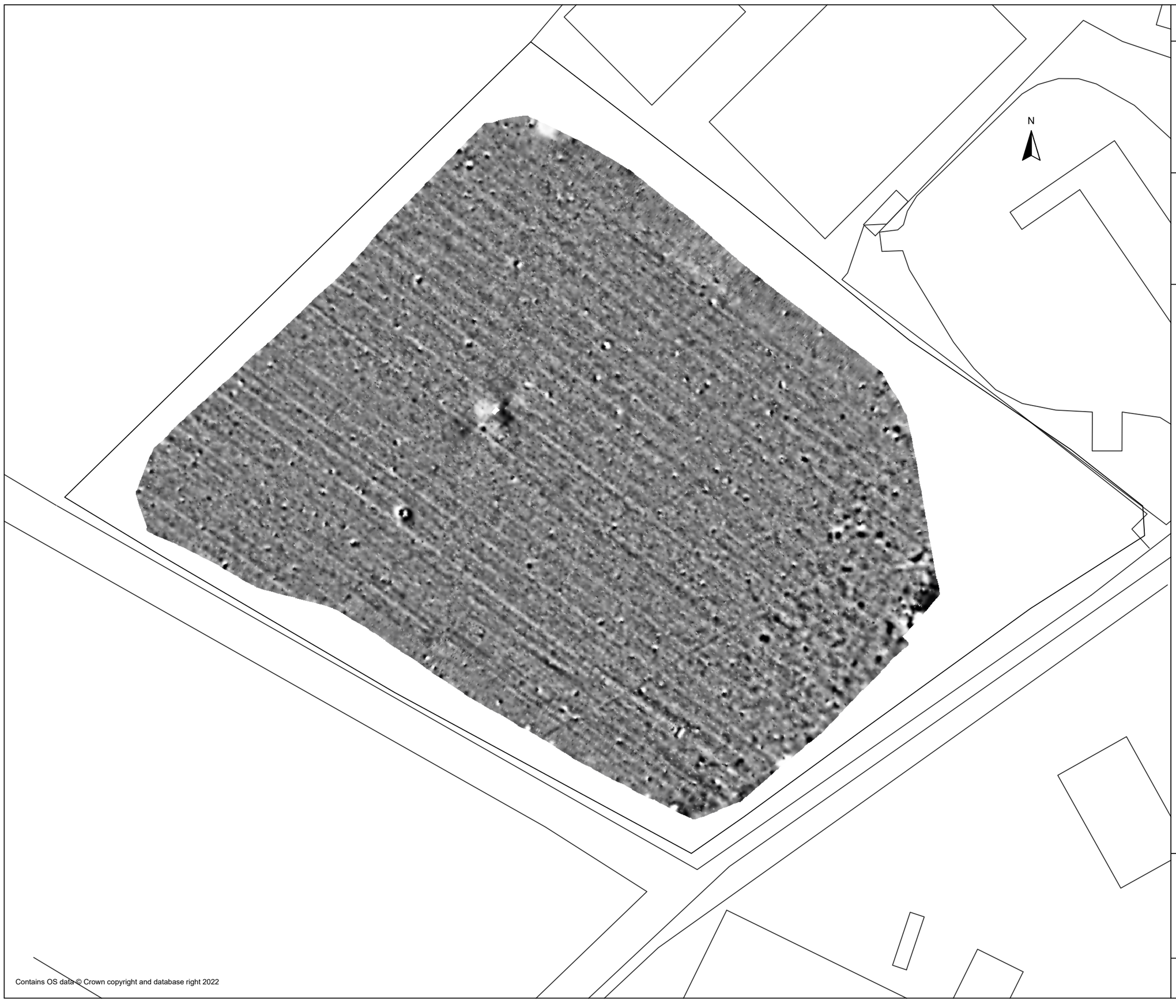
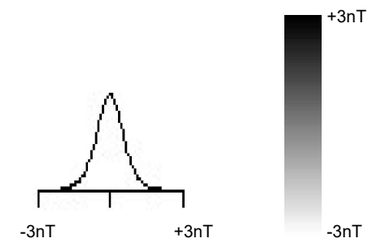
Greyscale plot of filtered magnetometer data





SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

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KTD	DJS	FIG 04

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Abstraction and interpretation of magnetic anomalies

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

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

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KTD	DJS	FIG 05