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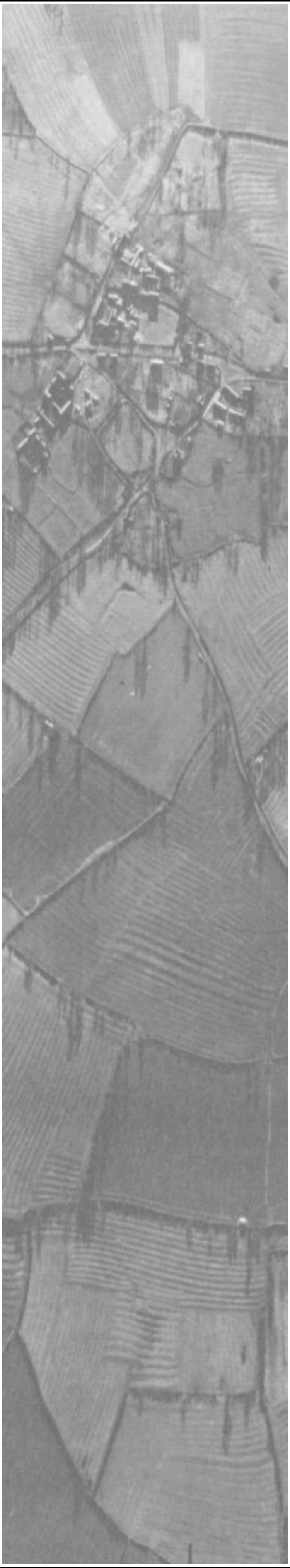

Lower Moor Farm
Oaksey
Wiltshire

MAGNETOMETER SURVEY REPORT

for

Wiltshire Wildlife Trust

Kerry Donaldson & David Sabin

April 2021

Ref. no. J854

ARCHAEOLOGICAL SURVEYS LTD

Lower Moor Farm
Oaksey
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MAGNETOMETER SURVEY REPORT

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Wiltshire Wildlife Trust

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

Survey date – 19th March 2021
Ordnance Survey Grid Reference – **SU 00655 93675**

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SUMMARY

A detailed magnetometry survey was carried out by Archaeological Surveys Ltd at Lower Moor Farm Nature Reserve near Oaksey, Wiltshire, at the request of the Wiltshire Wildlife Trust ahead of a proposed new wetland scheme. The results indicate the presence of a number of weakly positive linear anomalies which appear to relate to ditch-like features, several of which can be seen as extant land drainage features within the site and surrounding fields. These land drainage features do, however, pre-date the existing field boundary layout. A series of east to west oriented linear anomalies relate to former agricultural activity that appears to have truncated the earlier linear anomalies. Although several of the anomalies appear to relate to former land drainage, others could relate to agricultural activity or possibly to naturally formed features. LiDAR imagery indicates that the western side of the site contains a long linear depression that extends further to the north and south, and may be associated with former land drainage measures. It is possible that this is also associated with a former natural drainage channel that may have been re-worked through anthropogenic activity.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by Wiltshire Wildlife Trust to undertake a magnetometer survey of an area of land at Lower Moor Farm Nature Reserve in Oaksey, Wiltshire. The site has been outlined for a proposed development of a new wetland scheme involving the creation of new ponds, ditches and reed beds within the southern two thirds of the site. The entire field was surveyed in order to place any anomalies within context and to inform any future land management plans within the northern part of the site.

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 groundworks associated with the proposed new wetland scheme. 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 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) *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 are also considered 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 within pastureland at Lower Moor Farm, within the parish of, but 1.5km east of the core of the village of Oaksey in north Wiltshire. It is centred on Ordnance Survey National Grid Reference (OS NGR) SU 00655 93675, see Figs 01 and 02.

1.4.2 The geophysical survey covers approximately 2ha of pasture within a single field. The area is surrounded by hedgerows with ditches and steel wire net fencing. The land is generally level with a slight drop towards the south, during the course of the survey the south western corner of the field was flooded. A very small part of the field was unsurveyable due to the presence of a fallen tree and some branches etc.

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 mainly fine.

Plate 1: Survey area looking south west

1.5 Site history and archaeological potential

1.5.1 The Wiltshire Historic Environment Record indicates that the site lies 65m west of the Scheduled Monument (List entry no. 1019728) of a *Medieval settlement and associated field system at Clattinger Farm*. However, this part of the scheduled area is associated with ridge and furrow rather than settlement features, which are situated 310-390m to the south east nearer Clattinger Farm. An undated ring ditch has also been recorded from aerial photographs 215m south east of the site with another just to the south of this. A number of 19th century farmsteads are located in the near and surrounding vicinity, including Lower Moor Farm, 30m to the west, Clattinger Farm, 400m south east, Moor Farm 380m north and Oaksey Moor Barn, 300m to the north. LiDAR imagery and aerial photographs show a series of land drainage features within the site and surrounding vicinity that pre-date the existing field layouts which have been mapped since at least 1840 (see Fig 04).

1.5.2 The location of an earlier system of land drainage that pre-dates the existing field layout indicates that there is potential for the survey to locate anomalies associated with these and possibly other previously unrecorded features.

1.6 Geology and soils

1.6.1 The underlying geology is mudstone from the Kellaways Clay Member with overlying Northmoor Sand and Gravel Member in the eastern half of the site and alluvium in the western half (BGS, 2017).

1.6.2 The overlying soil across the site is from the Badsey 2 association and is a typical brown calcareous earth. It consists of a well drained, calcareous, fine, loamy soil over limestone gravel (Soil Survey of England and Wales, 1983).

1.6.3 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 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. 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.

2.3.6 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 the survey area. Where further interpretation is possible, or where a number of possible origins should be considered, more subjective discussion is set out in Section 4.

2.3.9 The abstraction and interpretation procedure has been supported by analysis of the Environment Agency's LiDAR data which has been reproduced as a colour relief map (Fig 04). The colour map represent the Z values or elevations with user specified colours plotted between 86m AOD (blue) and 88m AOD (red).

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 approximately 2ha within a single survey area.

3.1.2 Magnetic anomalies located can be generally classified as positive anomalies of an uncertain origin, linear anomalies of an agricultural origin, areas of magnetic debris and disturbance and strong discrete dipolar anomalies relating to ferrous objects. Anomalies located within each survey area have been numbered and are described in 3.4 below with subsequent discussion in Section 4.

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 The survey located a number of anomalies and although these are generally low in magnitude, they demonstrate the presence of sufficient magnetic contrast within the soil for the location of features of archaeological potential. However, the fragmented nature of anomalies, and lack of characteristic morphology, generally precludes confident interpretation.

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 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	Magnetic debris often appears as areas containing many small dipolar anomalies that may range from weak to very strong in magnitude. They often occur where there has been dumping or ground make-up and are 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, hearths and nail spreads from former wooden structures or rooves 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 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.

Table 1: List and description of interpretation categories

3.4 List of anomalies

Area centred on OS NGR 400655 193675, see Fig 03.

Anomalies with an uncertain origin

(1) – A fragmented positive linear anomaly is located near the south western corner of the survey area. It lies on the eastern edge of a shallow linear depression that extends through the western side of the survey area and to the north west and south of the site. The anomaly suggests a response to the magnetically enhanced fill of a cut feature at the edge of the linear depression, which has been later truncated by agricultural activity (9). Although it is not possible to date the anomaly, it is likely to pre-date the current field layout (see Fig 04).

(2) – A weakly positive linear anomaly is parallel with and approximately 33m east of anomaly (1). Analysis of LiDAR and aerial photo imagery shows that this anomaly is likely to extend southwards beyond the limits of the survey area and is part of a wider series of land drainage features that pre-date the existing field boundaries (see Fig 04).

(3) – A fragmented, weakly positive, linear anomaly extends across the centre of the survey area from a junction of field boundaries in the west to another junction of

field boundaries and a pond in the east, and it is possible that it is associated with a former ditch-like feature.

(4) – A weakly positive anomaly extends north eastwards from close to the western edge of the site and across anomaly (3); however, it is not clear if it cuts, or is cut by anomaly (3).

(5) – Two parallel linear anomalies are oriented almost north to south. It is not clear if they relate to features associated with land drainage or former ridge and furrow or later agricultural activity.

(6) – A small number of fragmented positive linear anomalies can be seen in the north eastern part of the survey area. They lack a coherent morphology and cannot be confidently interpreted as cut features. They are situated close to the field entrance and could be associated with vehicular activity and ground disturbance.

(7) – Situated in the north western part of the site are a cluster of three discrete positive responses, with a further single example located 16m to the north. They appear to relate to pit-like anomalies, but it is not clear if they have a natural or anthropogenic origin.

(8) – A fragmented, broad, positive response can be seen in the southern part of the site. It is possible that is is associated with variations within the Northmoor Sands and Gravel or between the junction with them and the alluvial deposits to the west.

Anomalies with an agricultural origin

(9) – A series of parallel linear anomalies can be seen within the survey area, oriented east to west. It is possible that they relate to ridge and furrow; however, they are parallel with the existing land boundaries and appear to have truncated earlier features such as (1).

Anomalies associated with magnetic debris

(10) – A zone of magnetic debris can be seen at the eastern edge of the survey area. This is associated with formerly dumped material used within modern ground make up. Several patches can be seen in the northern part of the site and will also relate to dumped material.

(11) – The site contains numerous and widespread strong, discrete, dipolar anomalies which are a response to ferrous and other magnetically thermoremnant objects, such as brick/tile within the topsoil.

Anomalies with a modern origin

(12) – The eastern half of the site contains three multiple dipolar linear anomalies. This type of anomaly could be associated with a former fence or pipe

4 DISCUSSION

4.1.1 The magnetometry survey has located a number of weakly positive linear anomalies that appear to relate to cut features associated with former land drainage. LiDAR imagery (Fig 04) reveals an earlier landscape of parallel drainage channels with a north west to south east orientation, which pre-dates the current field layout that has been mapped since at least 1840. A fragmented positive linear anomaly (1) extends along the eastern edge of a broad, 12-15m wide shallow linear depression along the western edge of the field. This anomaly indicates the response to the fill of a cut feature which could be directly associated with the linear depression, or a later re-cut. It has been truncated by later agricultural activity (9). The LiDAR imagery shows the linear depression extending to the south where is is partly bounded on the western edge by a linear bank and on the east by a linear drainage ditch, which then extends south eastwards towards the scheduled area of medieval settlement at Clattinger Farm. This broad linear feature also extends north westwards from the site where it branches to the north, east and west, bounding what appears to be a series of platforms just north west of Lower Moor Farm. It is possible that the broad depression relates to a former natural drainage channel which has been later re-modelled as part of a wider drainage system.

4.1.2 Although two parallel linear anomalies (1) & (2) have a north west to south east orientation similar to land drainage features seen within LiDAR and aerial imagery within the site and wider vicinity, other linear anomalies lack a coherent morphology. One fragmented linear anomaly (3) crosses the centre of the site between where field boundaries meet and a pond is situated in the east and a kink in the western field boundary. It is possible that the anomaly relates to a former ditch that drained into the pond. Two parallel linear anomalies (5) are oriented north to south, parallel with the eastern and western field boundaries, which may relate to a different series of agricultural features at right angles to anomalies (9). A small cluster of pit-like responses can be seen towards the north western corner of the survey area, but it is not clear if they relate to natural or anthropogenically formed features. A broad, linear anomaly in the southern part of the site could relate to variations in the underlying gravels and/or alluvial deposits, but this is not certain.

5 CONCLUSION

5.1.1 The results of the geophysical survey reveal a small number of weakly positive linear anomalies within the site. Some have a north west to south east trend which relates to a series of former land drainage channels that pre-date the existing field boundaries. Further ditch-like anomalies could relate to agricultural activity and other drainage ditches. Former agricultural activity with an east to west orientation appears to have truncated some of the earlier ditch-like features and modern ground disturbance and dumping has also resulted in magnetic debris. A line of three multiple dipolar linear anomalies suggests an association with a buried fence or pipe.

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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.

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

Filename: J854-mag-proc.xcp
Description: Imported as Composite from: J854-mag.asc
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y): OSGB36
Northwest corner: 400595.32, 193776.83 m
Southeast corner: 400717.72, 193584.98 m
Collection Method: Randomised
Sensors: 5
Dummy Value: 32702
Source GPS Points: 537000
Dimensions
Composite Size (readings): 816 x 1279
Survey Size (meters): 122 m x 192 m
Grid Size: 122 m x 192 m
X Interval: 0.15 m
Y Interval: 0.15 m

Stats
Max: 3.32
Min: -3.30
Std Dev: 1.15
Mean: 0.01
Median: 0.01
Composite Area: 2.3482 ha
Surveyed Area: 1.8838 ha

PROGRAM
Name: TerraSurveyor
Version: 3.0.23.0
GPS based Proce4
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to OSGB36).
3 DeStripe Median Traverse:
4 Clip from -3.00 to 3.00 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	J854-mag-**[area number/name]**.asc J854-mag-**[area number/name]**.xcp J854-mag-**[area number/name]**-proc.xcp	Raw data as ASCII CSV TerraSurveyor raw data TerraSurveyor minimally processed data
Graphics	J854-mag-**[area number/name]**-proc.tif	Image in TIF format
Drawing	J854-**[version number]**.dwg	CAD file in 2010 dwg format
Report	J854 report.odt	Report text in Open Office 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)
AS-ABST MAG POS UNCERTAIN	255,127,0	Polygon (cross hatched ANSI37)
Anomalies relating to land management		
Anomalies with an agricultural origin		

AS-ABST MAG AGRICULTURAL		Green 0,255,0	Line or polyline
Anomalies associated with magnetic debris			
AS-ABST MAG DEBRIS		132, 132, 132	Polygon (cross hatched ANSI37)
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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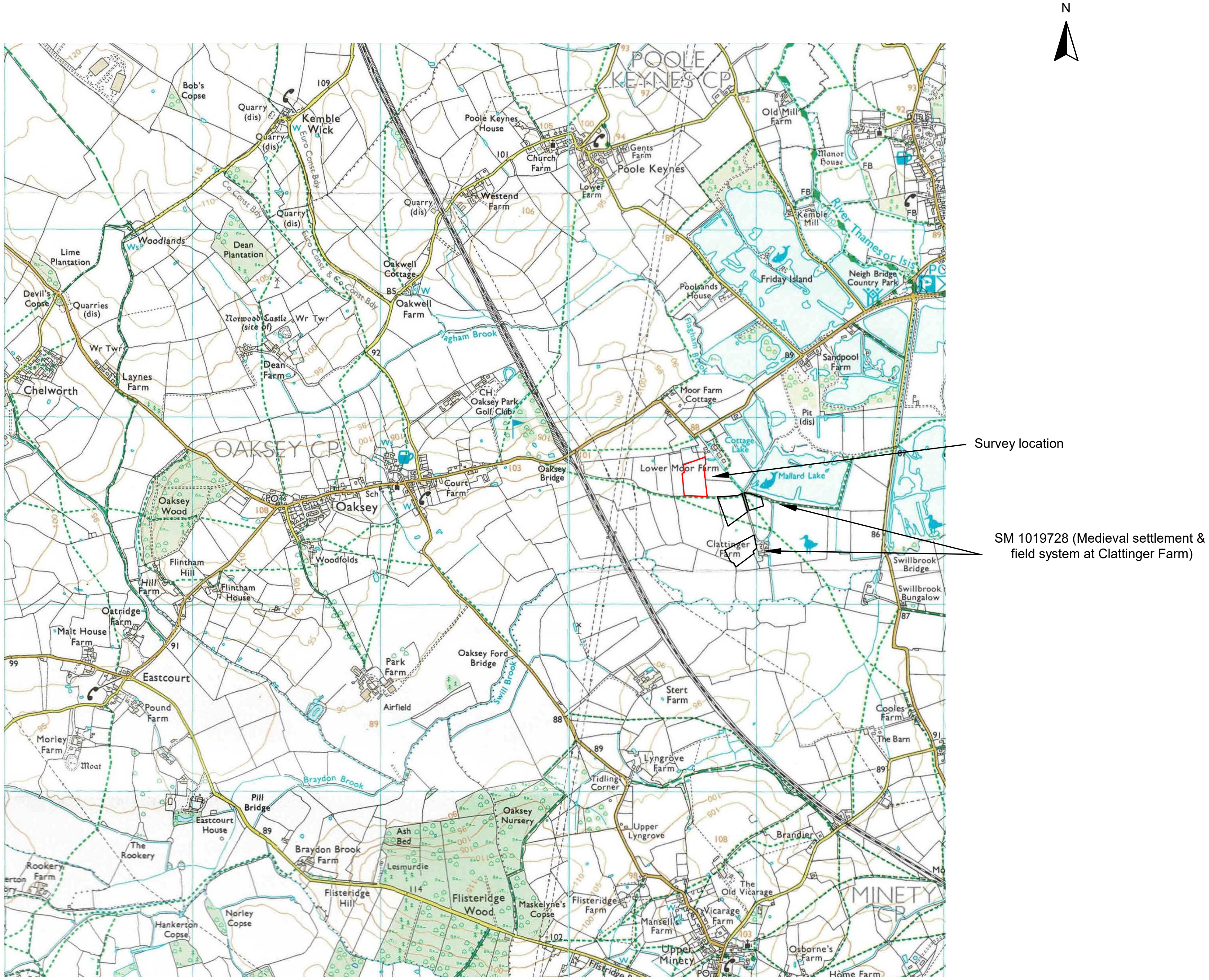

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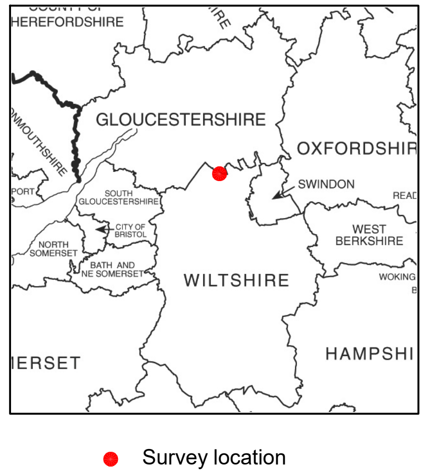
Geophysical Survey
Lower Moor Farm
Oaksey
Wiltshire

Map of survey area



Site centred on OS NGR
SU 00655 93675

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

Referencing grid to OSGB36 datum at 50m intervals

400650 193650

Survey tracks

Survey track start

Survey track stop

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

DRAWN BY	CHECKED BY	
KTD	DJS	FIG ??

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Greyscale plot of processed magnetometer data & abstraction & interpretation of magnetic anomalies

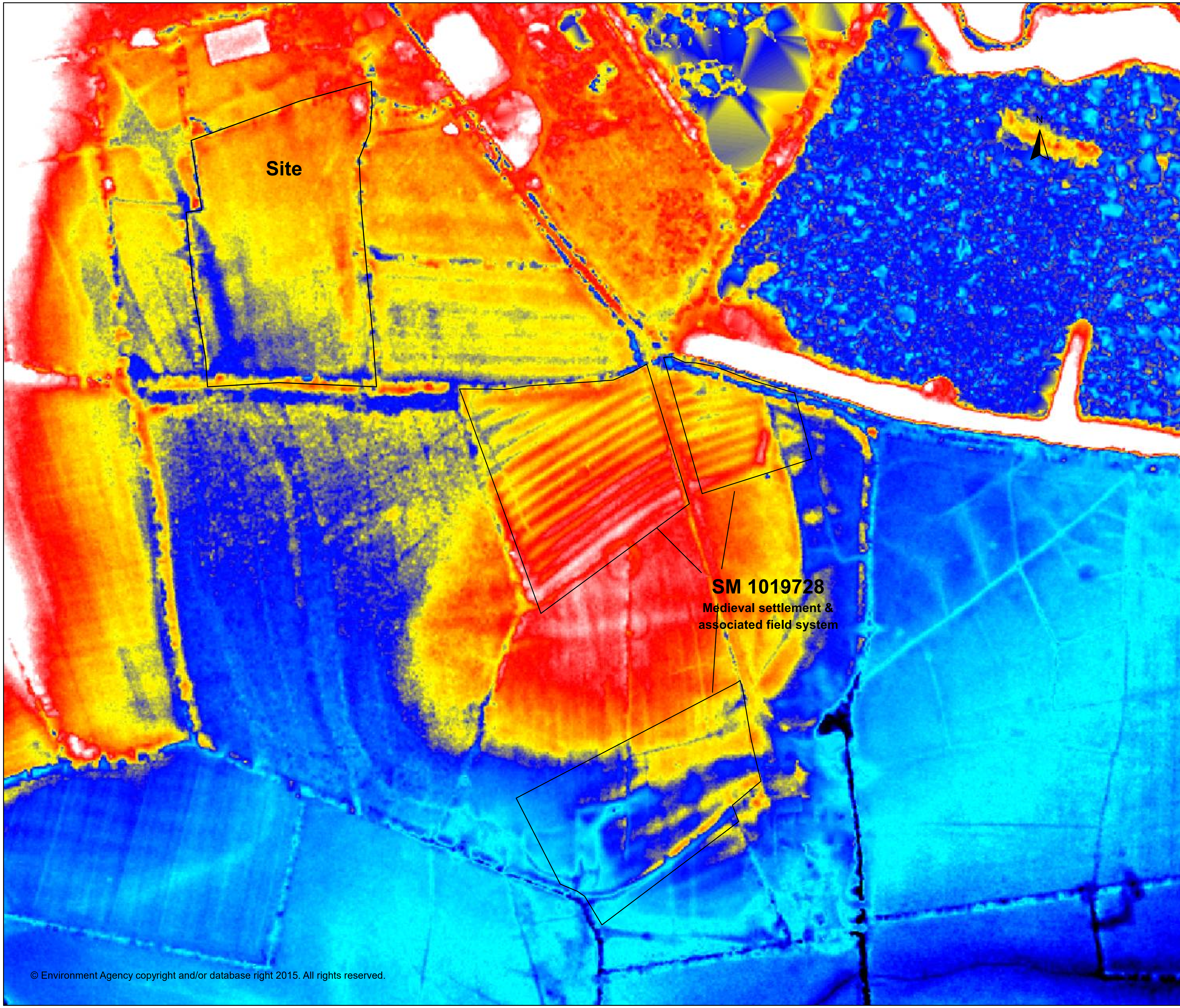
- Positive linear anomaly - possible ditch-like feature
- Linear anomaly - of agricultural origin
- Discrete positive response - possible pit-like feature
- Positive anomaly - magnetically enhanced material
- Magnetic debris - spread of magnetically thermoremnant/ferrous material
- Magnetic disturbance from ferrous material
- Strong dipolar anomaly - ferrous object

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

DRAWN BY	CHECKED BY	
KTD	DJS	FIG 03



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Colour Relief Map

Derived from Environment Agency's LiDAR data 1m resolution

88, 87.9, 87.8, 87.7, 87.6, 87.5, 87.4, 87.3, 87.2, 87.1, 87, 86.9, 86.8, 86.7, 86.6, 86.5, 86.4, 86.3, 86.2, 86.1, 86

Height above Ordnance Survey Datum in metres

SCALE 1:2500

0m 50 100m

SCALE TRUE AT A3

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KTD	DJS	FIG 04