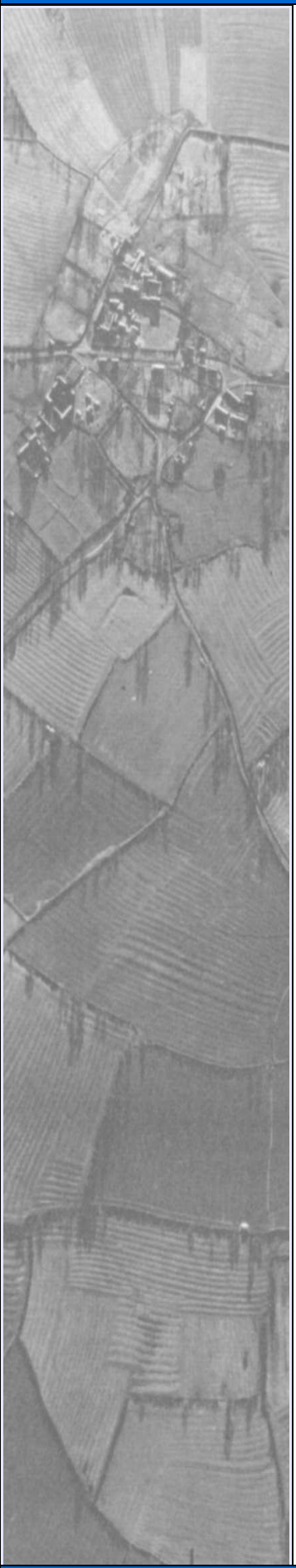

East Kennett Manor Farm
East Kennett
Wiltshire

MAGNETOMETER AND EARTH RESISTANCE SURVEY REPORT

for

Mr & Mrs J Cameron

Kerry Donaldson and David Sabin

May 2014

Ref. no. 536

ARCHAEOLOGICAL SURVEYS LTD

East Kennett Manor Farm
East Kennett
Wiltshire

Magnetometer and Earth Resistance Survey Report

for

Mr & Mrs J Cameron

Fieldwork by David Sabin & Richard Grove
Report by Kerry Donaldson BSc (Hons) & David Sabin BSc (Hons) MIFA

Survey dates – 22nd April to 7th May 2014
Ordnance Survey Grid Reference – **SU 11805 66875**

OASIS ID: archaeol20-179541

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SUMMARY

A geophysical survey was undertaken within a single arable field at East Kennett Manor Farm near Marlborough, at the request of landowners Mr and Mrs James Cameron. The survey was carried out over the site of a scheduled *bowl barrow, 200m east of East Kennett long barrow forming part of a barrow cemetery* (Monument No: 1014036 (SM 28103)) under the Environmental Stewardship Higher Level Scheme, which aims to protect the underlying archaeology within the field. Two further potential round barrows and a linear feature have also been recorded either side of the scheduled round barrow from aerial photographs of the field. The site lies immediately east of the East Kennett long barrow.

A detailed magnetometer survey was carried out over the entire 11.2ha field and the results show the location of the scheduled round barrow in the form of a 30m ring ditch with some indication of the internal mound. An earth resistance (resistivity) survey was also conducted over the scheduled barrow and within an area to the west targeting further archaeological features. The resistivity survey indicates that the mound of the round barrow appears to have been truncated, most notably on the northern and eastern edges, and this is reflected in the magnetometry data.

The location of the two further ring ditches, recorded from aerial photographs either side of the scheduled barrow, have also been confirmed. They make a linear arrangement of three ring ditches. These can be seen to the south west as a 30m ring ditch and to the north east as a 32m by 28m elliptical ditch. The presence of a linear ditch extending towards the north western edge of the north eastern ring ditch has also been confirmed. A number of previously unrecorded features have also been located, including several linear ditches and two discrete circular anomalies situated in the vicinity of the round barrows. The eastern edge of a further scheduled barrow is projected to encroach just within the western edge of the field, but neither techniques show any corresponding ring ditch feature in this location.

The survey has also located a previously unrecorded ring ditch which may indicate a fourth round barrow situated close to the north western corner of the field. This ring ditch appears to have pit-like anomalies within the interior, and a 25m diameter. A number of linear, rectilinear and discrete anomalies have also been located in the northern part of the site, but it is possible that these relate to natural features formed in the Quaternary period under periglacial conditions and resulting in an increased depth of topsoil within linear and discrete depressions.

In the southern part of the site, two positive linear anomalies relate to linear ditches spaced 50m apart. They appear to extend for 200m towards the south eastern end of the East Kennett long barrow and an association is possible. These may have been truncated by a series of parallel linear anomalies possibly representing former land divisions or lynchets. Situated in the south eastern corner of the survey area is a rectangular enclosure which appears to be formed of an outer ditch with internal bank and a further bank and ditch crossing the interior. It is possible that this feature relates to an unrecorded medieval sheep fold enclosing an area of approximately 0.5ha.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by Mr and Mrs James Cameron to undertake a magnetometer survey of an area of land at East Kennett Manor Farm, near Marlborough, Wiltshire. The survey area comprised a single arable field, 11.2ha in area, which contains a scheduled round barrow (Monument No: 1014036 (SM 28103)) that has been eroded and has been assessed as at High Risk by English Heritage. The work has been carried out as part of the Environmental Stewardship Higher Level Scheme (HLS), which aims to protect the underlying archaeology through management options, such as grassland reversion.

1.1.2 The geophysical survey was carried out in accordance with a Written Scheme of Investigation (WSI) produced by Archaeological Surveys (2014). The WSI considers the requirements of a Brief for geophysical survey issued by Stephanie Payne, Land Management Lead Advisor for Natural England.

1.1.3 A licence under Section 42 of the 1979 Ancient Monuments and Archaeological Areas Act (as amended by the National Heritage Act 1983) was obtained from English Heritage prior to commencing the fieldwork over the scheduled barrow. The survey area also lies within Avebury World Heritage Site.

1.2 Survey objectives and techniques

1.2.1 The objective of the survey was to use magnetometry to establish the presence and extent of archaeological features within the field. Earth resistance survey (resistivity) was also targeted within the area of the scheduled round barrow, and over a number of anomalies located by the magnetometry survey. The eastern edge of a second scheduled round barrow (Monument No: 1014039 (SM 28106)) is depicted as extending just within the western part of the survey area, and the location of this was also covered by the earth resistance survey.

1.2.2 The survey and report generally follow the recommendations set out by: English Heritage (2008) *Geophysical survey in archaeological field evaluation;* and Institute for Archaeologists (2002) *The use of Geophysical Techniques in Archaeological Evaluations*. The work has been carried out to the Institute for Archaeologists (2011) *Standard and Guidance for Archaeological Geophysical Survey.*

1.3 Site location, description and survey conditions

1.3.1 The site is located to the south of the village of East Kennett, approximately 6km west of Marlborough in Wiltshire. It is centred on Ordnance Survey National Grid Reference (OS NGR) SU 11805 66875, see Figures 01 and 02.

1.3.2 The magnetometer survey covers approximately 11.2ha within a single arable field. The area was split into two fields until recently. The scheduled barrow sits just north of the crest of the hill, which slopes down to the north, east and south east. The highest part of the field is at its western edge at 185m AOD, sloping down to 165m AOD to the east and 155m AOD in the north.

1.3.3 The ground conditions across the site were generally considered to be favourable for the collection of magnetometry and earth resistance data. There was no ground cover at the time of survey. Some rutting of the surface due to agricultural activity was present within the site. Weather conditions during the survey were variable with periods of heavy rain causing abandonment of magnetometry on two occasions.

1.4 Site history and archaeological potential

1.4.1 The survey area lies within the Avebury World Heritage Site and is located immediately east of East Kennett long barrow. The field contains a scheduled *bowl barrow, 200m east of East Kennett long barrow forming part of a barrow cemetery* (Monument No: 1014036 (SM 28103)). The bowl barrow survives as a low spread of material approximately 40m wide and 0.3m high, with a 2m wide ring ditch surrounding the original extent of the mound. It has been recorded as a *Tumulus* on Ordnance Survey mapping since 1924, although the position is slightly inaccurate (see 4.1.2). Two other undated ring ditches have been identified from aerial photos (NMR SU 1166/13 29th March 1990) 100m to the north east and south west of the scheduled barrow, together with a linear feature (Crutchley, 1992). A second scheduled ring ditch relating to a *bowl barrow 50m north east of East Kennett long barrow forming part of a cemetery* (Monument No: 1014039 (SM 28106)) just encroaches into the western part of the field.

1.4.2 Round barrows are funerary monuments dating from the Late Neolithic period to the Late Bronze Age period, although the main period of construction and use was between 2400BC and 1500BC during the Early Bronze Age (Field, 2011). They are generally constructed as an earthen mound covering a single or multiple burials, surrounded by a single ring ditch or multiple ring ditches. There can be a complex sequence of construction and use, including internal structures such as platforms, pits and stone cairns. Secondary burials and flat graves have also been located within and close to round barrows (Cleal, 2005). The most common example is the bowl barrow, which consists of an internal bowl shaped mound, surrounded by a ring ditch. Groups of these barrows are often found in association with other earlier and contemporary monuments, and it appears that the Neolithic East Kennett long barrow became the focus of a Bronze Age barrow cemetery, with at least nine round barrows in the close vicinity. One of these round barrows, situated 300m to the east of the scheduled round barrow, was excavated by the Rev R C Connor in 1840 and a beaker vessel, a bronze dagger and a stone battle-axe were found with a crouched adult inhumation within a central grave pit beneath the mound (Merewether, 1851; Kinnes, 1978).

1.4.3 The geophysical survey is likely to locate the scheduled round barrow and other

potential non-designated archaeological remains. The outer ring ditch is often all that can be seen of the remains of the barrow within magnetometry data. It appears as a positive curvilinear anomaly, which is a response to the increased depth of topsoil within the ditch. Earth resistance data can show the outer ditch as a low resistance response, sometimes with a high resistance response to the internal mound. It is possible that other internal features may also be located through both techniques.

1.4.4 During the course of the survey, the field surface was very suitable for the observation of cultural material. No significant scatters of material were noted although 3 flint implements were found on the flatter ground on top of the hill. The items consisted of two round scrapers and a crude flake with retouch possibly also representing a scraper; the objects were not retained and were left on the field surface. A small amount of post-medieval pottery and tile was also noted and this was considered likely to have been introduced through manuring. Modern ferrous objects including broken plough shares, 'angle iron' fencing posts and tractor parts were frequently observed. Occasional small fragments of sarsen stone were noted across most of the field, although a distinct concentration is present towards the south eastern corner.

1.5 Geology and soils

1.5.1 The underlying solid geology across the site is Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (Upper Chalk) in the north western part of the site with Holywell Nodular Chalk Formation and New Pit Chalk Formation (Middle Chalk) over the rest of the site (BGS 2014).

1.5.2 The overlying soil across the survey area is from the Andover 1 association and is a brown rendzina. It consists of a shallow, well drained, calcareous, silty soil over chalk with striped soil patterns locally (Soil Survey of England and Wales, 1983).

1.5.3 Magnetometry survey carried out across similar soils has produced good results, although the contrast between the fill of cut features and the material into which they are cut can be weak. At times naturally formed periglacial features can be encountered and these may obscure anomalies of anthropogenic origin. The underlying geology and soils are considered acceptable for magnetic survey.

1.5.4 During the course of the survey sarsen fragments were observed infrequently, although they became more common in the south eastern part of the field. The fragments may indicate that larger sarsens (of natural origin) were once more widespread across the surface and that these were moved or broken up to aid farming. Also noted was the occurrence of larger flint nodules on the crest of the hill along with fragmented chalk. This material would suggest long term erosion of soil from the higher part of the site.

2 METHODOLOGY

2.1 Technical synopsis

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

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

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

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

2.1.5 The electrical resistance or resistivity of the soil depends upon the moisture content and distribution within the soil. Buried features such as walls can affect the moisture distribution and are usually more moisture resistant than other features such as the infill of a ditch. A stone wall will generally give a high resistance response and the moisture retentive content of a ditch can give a low resistance response. Localised variations in resistance are measured in ohms (Ω,) which is the SI unit for electrical impedance or resistance.

2.1.6 The Twin Probe configuration used in this survey is favoured for archaeological prospection and can give a response to features up to 1m in depth with a mobile probe separation of 0.5m.

2.2 Equipment configuration, data collection and survey detail

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

2.2.2 The earth resistance survey was carried out using Geoscan Research Ltd RM85 resistance meter using a mobile parallel twin probe array with a 0.5m electrode separation. Data were recorded at 1m intervals along traverses separated by 1m within 30m grids giving 900 readings per grid. The instrument was set to filter stray earth currents which can cause errors within the resistance measurements.

2.2.3 The earth resistance survey grids were set out to the Ordnance Survey OSGB36 datum using a Leica GS10 RTK GPS. The GPS is used in conjunction with Leica's SmartNet service, where positional corrections are sent via a mobile telephone link. Positional accuracy of around 10 – 20mm is possible using the system. The instrument is regularly checked against the ETRS89 reference framework using Ordnance Survey ground marker C1ST7784 (Horton).

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. Georeferenced data are then exported in ASCII format for compensation (destriping), interpolation and clipping using TerraSurveyor. Greyscale images are also produced using TerraSurveyor.

2.3.2 Minimal processing is carried out in order to enhance the results of the survey for display. Raw data are always analysed, as processing can modify anomalies. The following schedule sets out the data and image processing used in this survey for the SENSYS MAGNETO data:

- clipping of processed data at ±20 nT to enhance low magnitude anomalies,
- zero median traverse at 1.5SD is applied in order to balance readings along each traverse.
- a high pass filter is applied to smooth data and remove survey tracks.

Reference should be made to Appendix B for further information on the specific processes carried out on the data. Appendix C metadata includes details on the processing sequence used.

2.3.3 Data captured with the SENSYS MAGNETO cart-based system are resampled to a resolution of effectively 0.5m between tracks and 0.2m along each survey track. A GeoTIFF file (OSGB36) is produced by TerraSurveyor software.

2.3.4 Data logged by the resistance meter are downloaded and processed within TerraSurveyor software. The following processing has been carried out on data in this survey:

- processed data have been clipped between 28Ω and 42Ω to enhance any

possible archaeological anomalies,
- data have been “despiked” in order to remove spurious high contact responses.

2.3.5 An abstraction and interpretation is offered for all geophysical anomalies located by the survey. A brief summary of each anomaly, with an appropriate reference number, is set out in list form within the results (Section 3) to allow a rapid and objective assessment of features.

2.3.6 The main form of data display prepared for this report is the greyscale plot followed by an abstraction and interpretation plot. Anomalies are abstracted using colour coded points, lines and polygons. All plots are scaled to landscape A3 for paper printing.

2.3.7 Data captured with the SENSYS MAGNETO cart-based system are resampled to a resolution of effectively 0.5m between tracks and 0.2m along each survey track. A GeoTIFF file (OSGB36) is produced by TerraSurveyor software.

2.3.8 Graphic raster images in TIFF format (.TIF) are prepared in TerraSurveyor for the earth resistance data. Regardless of survey orientation, data captured along each traverse are displayed and processed by TerraSurveyor from left to right; this corresponds to a direction of south to north in the field. Prior to displaying against base mapping, raster graphics require a rotation of 90° anticlockwise to restore north to the top of the image upon insertion into AutoCAD.

2.3.9 The raster images are combined with base mapping using ProgeCAD Professional 2014 and AutoCAD LT 2007, creating DWG file formats. All images are externally referenced to the CAD drawing in order to maintain good graphical quality. Quality can be compromised by rotation of graphics in order to allow the data to be orientated with respect to grid north; this is considered acceptable as the survey results are effectively georeferenced allowing relocation of features using GPS, resection method etc.

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 – magnetometry

3.1.1 The detailed magnetic survey was carried out over a total of 11.2ha within a single arable field.

3.1.2 Magnetic anomalies located can be generally classified as positive and

negative responses of archaeological potential, positive and negative anomalies of an uncertain origin, linear anomalies of an agricultural origin, areas of magnetic debris, strong discrete dipolar anomalies relating to ferrous objects and strong multiple dipolar linear anomalies relating to buried services or pipelines.

3.1.3 Anomalies located within the survey area have been numbered and are described below, with subsequent discussion in Section 4.

3.2 Statement of data quality – magnetometry

3.2.1 Data are considered representative of the magnetic anomalies present within the site. Survey tracks visible within the data relate to uneven separation between the gradiometers and the ground surface due to ruts associated with agricultural activity. The lines were removed by high pass filtering and data were checked to ensure that magnetic anomalies of archaeological potential remained unaffected.

3.3 Data interpretation – magnetometry

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

Report sub-heading CAD layer names and plot colour	**Description and origin of anomalies**
Anomalies with archaeological potential AS-ABST MAG POS LINEAR ARCHAEOLOGY AS-ABST MAG POS ARCHAEOLOGY AS-ABST MAG POS CURVILINEAR RING DITCH AS-ABST MAG DISTURBED ARCHAEOLOGY AS-ABST MAG NEG LINEAR ARCHAEOLOGY	Anomalies have the characteristics (mainly morphological) of a range of archaeological features such as linear ditches, ring ditches, enclosures, etc.. Positive anomalies can be a response to increased depth of topsoil within cut features, although can also be a response to earthwork features if extant. Negative anomalies can be a response to earthworks, but may at times be a response to an extant ditch.
Anomalies with an uncertain origin AS-ABST MAG POS LINEAR UNCERTAIN AS-ABST MAG POS DISCRETE UNCERTAIN AS-ABST MAG POS AREA UNCERTAIN	The category applies to a range of anomalies where there is not enough evidence to confidently suggest an origin. Anomalies in this category may well be related to archaeologically significant features, but equally relatively modern features, geological/pedological features and agricultural features should be considered. Positive anomalies are indicative of magnetically enhanced soils that may form the fill of 'cut' features or may be produced by accumulation within layers or 'earthwork' features; soils subject to burning may also produce positive anomalies. Negative anomalies are produced by material of comparatively low magnetic susceptibility such as stone and subsoil.
Anomalies with an agricultural origin AS-ABST MAG LYNCHET	The anomalies are often linear and form a series of parallel responses. They are broad, with a positive response and associated negative anomaly.

Anomalies associated with magnetic debris AS-ABST MAG DEBRIS AS-ABST MAG STRONG DIPOLAR 	Magnetic debris often appears as areas containing many small dipolar anomalies that may range from weak to very strong in magnitude. It often occurs where there has been dumping or ground make-up and is related to magnetically thermoremnant materials such as brick or tile or other small fragments of ferrous material. This type of response is occasionally associated with kilns, furnace structures, or hearths and may therefore be archaeologically significant. It is also possible that the response may be caused by natural material such as certain gravels and fragments of igneous or metamorphic rock. Strong discrete dipolar anomalies are responses to ferrous objects within the topsoil.
Anomalies with a modern origin AS-ABST MAG SERVICE 	Fluxgate sensors may respond erratically and with hysteresis adjacent to strong magnetic sources. Buried services may produce characteristic multiple dipolar anomalies dependant upon their construction.

Table 1: List and description of magnetometry interpretation categories

3.4 General assessment of survey results – resistivity

3.4.1 The earth resistance survey was carried out over approximately 1ha targeted on the scheduled round barrow, linear and pit-like anomalies identified within the magnetometry data and the potential location of the eastern edge of a second scheduled round barrow extending into the western part of the field.

3.4.2 Resistive anomalies located can be generally classified as high and low resistance anomalies relating to archaeological features and high and low resistance anomalies of uncertain origin. Anomalies located within the survey area have been numbered and will be outlined below, with subsequent discussion included in Section 4.

3.5 Statement of data quality – resistivity

3.5.1 Data are considered representative of the resistive anomalies present within the site. There are no significant defects within the dataset. The technique was considered to be very effective due to the freely draining nature of the underlying geology and soil despite periods of heavy rain prior to the survey.

3.6 Data interpretation – resistivity

3.6.1 The listing of sub-headings below attempts to define a number of separate categories that reflect the range and type of features located during the earth resistance survey. A basic explanation of the characteristics of the anomalies is set out for each category in order to justify interpretation, a basic key is indicated to allow cross reference to the abstraction and interpretation plot. Sub-headings are then used to group anomalies with similar characteristics.

Report sub-heading CAD layer names and plot colour	Description and origin of anomalies
Anomalies with archaeological potential AS-ABST RES LOW LINEAR ARCHAEOLOGY AS-ABST RES HIGH DISCRETE ARCHAEOLOGY 	Anomalies have the characteristics (mainly morphological) of a range of archaeological features such as enclosures, structures, ring ditches, etc.. High resistance may indicate structural material (e.g. stone); low resistance may relate to the moisture retentive fill of cut features.
Anomalies with an uncertain origin AS-ABST RES HIGH LINEAR UNCERTAIN AS-ABST RES LOW LINEAR UNCERTAIN AS-ABST RES HIGH DISCRETE UNCERTAIN 	The category applies to a range of anomalies where there is not enough evidence to confidently suggest an origin. Anomalies in this category may well be related to archaeologically significant features, but equally relatively modern features, geological/pedological features and agricultural features should be considered. High resistance anomalies are indicative of comparatively low moisture and may indicate stone, compacted soil, changes in drainage, etc. Low resistance anomalies are indicative of comparatively high moisture and may relate to the fill of cut features, organic material within the soil, damp areas etc..

Table 2: List and description of resistivity interpretation categories

3.7 List of anomalies – magnetometry

Area centred on OS NGR 411805 166875, see Figures 03 – 08.

Anomalies of archaeological potential

(1) – A positive curvilinear anomaly is a response to the outer ring ditch surrounding the scheduled round barrow. It defines an area with an outer diameter of 30m and the width of the response is approximately 2m. A negative curvilinear anomaly can be seen along the internal edge of the southern part of the ring ditch and this may relate to the edge of the mound. A diffuse negative curvilinear anomaly appears to correspond to the edge of the mound. A positive linear anomaly crosses the northern part of the ring ditch, defining the northern edge of the mound and a narrow positive linear extends along the eastern edge of the mound. These anomalies may indicate cut features that have truncated the edges of the mound.

(2) – A second positive curvilinear anomaly is located 80m to the south west of anomaly (1). It relates to the remains of an outer ring ditch associated with an unscheduled round barrow approximately 30m in diameter. The response is 2-3nT and it is approximately 1.5m wide. It has been crossed along the southern edge by a relatively recently removed field boundary fence and a number of strong, discrete dipolar anomalies are located within it; these are likely to be modern ferrous objects. Associated internal features cannot been identified within the dataset.

(3) – A positive curvilinear anomaly is located 70m north east of anomaly (1) forming a line of three ring ditches with anomaly (2) to the south west. It relates to the outer ditch of a barrow, and it has a slightly flattened ovoid shape, probably as it is situated on a slope. It has dimensions of approximately 32m by 28m and the response is 1.6m wide. No internal features can be distinguished within the

confines of the ring ditch; however, it appears that there is an associated negative curvilinear response on the external northern edge. It is possible that this may relate to an outer bank. Other positive linear anomalies are located in the vicinity and appear to be associated.

(4) – A positive curvilinear anomaly is located 190m north west of anomaly (1) and relates to a fourth ring ditch associated with a former round barrow. The western edge of the ring ditch is likely to project into the neighbouring field to the west. The area enclosed by the ring ditch is 25m in diameter and the width of the response is approximately 2m. There appears to be a negative curvilinear response on the internal southern and eastern edge which may indicate a former bank or edge of the mound. It also appears to contain several pit-like responses and is it possible that they are associated.

(5 & 6) – A number of positive linear anomalies are located in the central part of the survey area. They appear to relate to a group of linear ditches which are associated with the round barrows and several extend towards them. Anomaly (6) relates to a feature formerly identified on aerial photographs close to the north western edge of anomaly (3).

(7) – Two positive linear anomalies with a response of 2nT are located in the south western part of the survey area. They appear to have been truncated by anomalies (14). They relate to linear ditches spaced 50m apart and oriented north west to south east. They appear to extend directly towards the south eastern end of the East Kennett long barrow and may be associated with the monument.

(8) – Two weakly positive linear anomalies (1nT) are located to the north and south of anomalies (7). They are weak and indistinct, but it is possible that they are associated with anomalies (7).

(9) – Located in the south eastern corner of the survey area are a number of positive and negative rectilinear anomalies that relate to a rectangular enclosure with an internal division. There appears to be an external ditch, with an internal bank, and a bank and ditch appearing to bisect it in two. A number of positive linear anomalies, pit-like anomalies and a group of strong discrete dipolar anomalies can be seen within the interior, although it is not possible to determine if they are directly associated. The whole feature encloses an area of 0.5ha and it is possible that this relates to a medieval sheep enclosure.

(10) – A positive, broadly linear response appears to extend northwards from the north western corner of anomaly (9). It is possible that this relates to a linear ditch or boundary feature that is associated with the enclosure.

Anomalies with an uncertain origin

(11) – In the central part of the survey area, just off the crest of the hill, are two discrete positive responses which appear to relate to circular zones of magnetic enhancement. The anomalies are 9-10m in diameter and have a number of strong discrete dipolar anomalies and enhanced discrete anomalies located within or close

to the northern edge. It is possible that they relate to chalk extraction pits; however, it is not certain that they are infilled pits or depressions or relate to former platforms of mounds. They are located between a number of linear features and an archaeological origin should be considered.

(12) – A number of broad, weakly positive linear responses are located within the survey area. It is possible that they relate to cut features; however, their weak, short and fragmented response prevents confident interpretation.

(13) – A number of positive linear and discrete anomalies are located along the northern edge of the survey area. Although they look like a series of linear, rectilinear and pit-like cut features, it is possible that they relate to soil filled periglacial features within the underlying chalk.

Anomalies with an agricultural origin

(14) – A number of broad bands of positive and parallel negative linear anomalies extend across the southern part of the site and are oriented east to west and regularly spaced 25-27m apart. They appear to have truncated earlier features (7) and they extend towards the rectangular enclosure (9) in the south eastern corner of the field. This type of response may relate to lynchets or land divisions.

Anomalies associated with magnetic debris

(15) – A patch of magnetic debris is located at the north eastern corner of the survey area and may relate to modern magnetically thermoremant material, such as brick and tile that has been used for ground consolidation.

(16) – Extending across the centre of the survey area are a linear series of strong, discrete dipolar anomalies. They are associated with boundary fencing that has been relatively recently removed from the field. The site contains numerous and widespread strong, discrete dipolar anomalies which relate to ferrous and other magnetically thermoremant objects within the soil. It is possible that they have become incorporated into the topsoil during the process of manuring and soil conditioning.

Anomalies with a modern origin

(17) – A strong, multiple dipolar, linear anomaly and associated magnetic disturbance is a response to a buried service or pipe extending along the northern edge of the field.

3.8 List of anomalies – resistivity

Area centred on OS NGR 411773, 166890 see Figure 09.

Anomalies of archaeological potential

(18) – A high resistance discrete anomaly relates to the central mound of the scheduled round barrow. It has dimensions of 23m by 18m and it appears to have very straight edges on the northern and eastern sides, rather than a rounded profile. The northern edge is delimited by a positive linear anomaly seen within the magnetometry data, which indicates that the mound may have been truncated.

(19) – Two low resistance curvilinear anomalies are located to the north and south of anomaly (18) and appear to relate to the surrounding barrow ditch. Their position corresponds to the positive curvilinear anomaly seen in the magnetometry results that defines the ring ditch (1).

(20) – A low resistance linear anomaly extends from the western field boundary for 100m towards the scheduled round barrow (anomalies 18 & 19). It corresponds to a positive linear anomaly indicating a linear ditch seen within the magnetometry results. If the line is projected westwards it would extend towards the southern edge of the scheduled barrow situated immediately to the west and the north western end of East Kennett long barrow, situated 100m to the west.

(21) – A fragmented low resistance linear anomaly extends south eastwards from the north western corner of the survey area and may relate to a linear ditch. It appears to contain a series of broader, pit-like responses along its length. It appears that it may have been truncated by anomaly (20) and it is parallel with the long axis of the long barrow situated 70m to the south west, and an association should be considered.

Anomalies of uncertain origin

(22) – A discrete high resistance anomaly is located at the northern edge of the survey area and corresponds to a discrete positive pit-like anomaly seen within the magnetometer results. The high resistance response may indicate a pit with a coarse, well drained matrix, or possibly a former mound or platform.

(23) – High resistance discrete anomalies are located along the southern edge of the survey area. They may relate to natural features within the underlying chalk bedrock.

(24) – A short, low resistance linear anomaly extends partially across the survey area. It may relate to a cut feature.

(25) – A narrow, high resistance linear anomaly is located to the south west of anomaly (21) and is broadly parallel with it. However, it is not possible to determine if it is associated, or its origin or function.

4 DISCUSSION

4.1.1 The magnetometer survey has defined the location of the scheduled round barrow in the centre of the field. The barrow appears as a 30m wide ring ditch with an almost rectangular mound in the centre. It appears that the mound has been truncated by a cut feature on the northern side and by a narrow linear anomaly on the eastern side. The barrow is sited just north of the crest of the incline within the field. Two other barrows to the north east and south west have also been located and are defined by ring ditches. The south western one has a diameter of 30m and is sited on the crest of the hill, and the north eastern one has a slightly elliptical shape and is located downslope, close to the eastern field boundary. A fourth, previously unrecorded barrow, is located close to the north western corner of the site at the bottom of the slope, and it is possible that this has associated pit-like responses within its interior.

4.1.2 The scheduled barrow, as well as the two other possible barrows to the north east and south west have been recorded from aerial photographs together with a linear anomaly (Crutchley, 1992). However, there is a slight discrepancy between the plotted barrow locations, both from the aerial photographs and on Ordnance Survey mapping, with their actual positions in the field. The actual location of the scheduled barrow is 20m east of where it is plotted, with the south western barrow 25m north and the north eastern barrow 15m north of where they have been plotted. The scheduled boundary therefore does not cover the entire barrow ring ditch, with the eastern part lying outside. Several previous geophysical surveys in the Avebury area have failed to locate round barrows plotted from aerial photographs (David, 2005). Although there can often be a lack of a response to archaeological features, this could be due, however, to discrepancies with the plotting of the features from aerial photographs and relocating the position of these features within the field, rather than just the lack of geophysical response to the ring ditch. The location of a further scheduled round barrow is depicted as extending just within the western part of the survey area. Although this zone was surveyed using both magnetometry and resistivity, neither technique could locate the ring ditch.

4.1.3 A number of linear ditches are located in the northern half of the field, generally oriented parallel with the contours of the incline. They are situated in the vicinity of the round barrows and appear to be associated, with several extending towards the barrows. It appears that one linear cut feature has truncated the northern edge of the scheduled barrow mound. Corresponding linear features can also be seen in the resistivity data, together with a linear low resistance response that is parallel with the long axis of the East Kennett long barrow.

4.1.4 In the southern part of the field are two linear ditches, sited 50m apart and oriented north west to south east. These linear features appear to have been

truncated by possible lynchets or later land divisions, and appear to extend for 200m directly towards the south eastern end of East Kennett long barrow, which is situated immediately west of the survey area. There is evidence throughout the Marlborough Downs of associations between Bronze Age linear ditches and barrows with some aligned on, or terminating close to, barrows (Kirkham, 2005). If the line of these features were projected south eastwards they may extend towards the dry valley bottom containing numerous sarsens 100m away, or further south eastwards towards the Ridgeway which is located 340m away. Other, weakly positive anomalies are located to the north and south of these linear features and may be associated.

4.1.5 In the south eastern corner of the site the survey located a rectangular enclosure encompassing an area of 0.5ha. It appears to be defined by anomalies representing an outer ditch and inner bank, with internal bank and ditch crossing the centre from east to west. The origin and function of the enclosure is not certain, but it is possible that it relates to a medieval sheep fold. These were often large enclosures containing a building or sheepcote known as *bercaria*, in which the flocks of sheep were housed during the winter or in bad weather, often sited in slight valleys or south facing dips to provide shelter from the prevailing wind (Dyer, 1995). They often were constructed of outer ditches with internal banks, sometimes with a stonewall or hedge on top and generally in use between the 12th and 15th centuries (Hare, 1994). They exist throughout the country, with several examples in the Cotswolds (Dyer, 1995), Salisbury Plain (McOrmish et al, 2002) with at least 50 recorded within the Marlborough Downs (Smith, 2005). It is not possible to determine if there are internal structures within the enclosure, but there is a cluster of strong discrete dipolar anomalies towards the north eastern corner, with a small number of pit-like responses and linear anomalies within the interior. It is possible that there have been different phases of construction, with the external ditch appearing to cut the bank in several places. There are also slight earthworks on the ground in the vicinity of the feature, along with a low density scatter of sarsen fragments. Other broad linear anomalies appear to extend towards it from the west, and these may indicate lynchets or land divisions that are also associated with low earthworks. A broad positive response appears to extend northwards from the north western corner of the enclosure and this may also represent a former land boundary.

4.1.6 Two large, circular positive responses have been located in the vicinity of the barrows. They can be seen as circular positive responses measuring 10m in diameter in the magnetometer data, but as high resistance responses in the resistivity data measuring at least 18m in diameter. They appear to have a cluster of discrete ferrous responses on the north eastern edge of both and also contain a number of discrete positive anomalies with a higher magnitude response, but it is not possible to determine if these are directly associated. Although it appears from the magnetometer results that they may relate to pit-like features, the resistivity data indicate that the matrix of the material may be coarse and not moisture retentive, resulting in high resistance response. While it is possible that they relate to chalk pits, none is recorded on former mapping, and there does not appear to be any associated depressions within

the ground surface. It is possible that they relate to former mounds or platforms. They appear to be situated between two linear ditches and may have an archaeological origin.

4.1.7 In the very northern part of the survey area, the previously unrecorded ring ditch has been located. It appears that this contains a number of pit-like anomalies within the confines of the ring ditch. To the east of this are a number of positive linear and discrete responses and while they may appear to form linear ditches, enclosure and pits, it is possible that they are associated with soil filled natural depressions within the underlying chalk bedrock.

5 CONCLUSION

5.1.1 A geophysical survey was carried out within an 11ha field that contains the remains of a scheduled round barrow, with cropmark evidence for two other possible round barrows to the north east and south west. The results of the magnetometry survey show the position of the scheduled barrow as a ring ditch with a 30m diameter, with some evidence of an internal mound also indicated in earth resistance data. The position of the ring ditch is 20m further east than the mapped scheduled area. It appears that the mound has been truncated on its northern and eastern sides.

5.1.2 The locations of the two other possible round barrows has also been established, slightly further to the north than the position in which they have been mapped from aerial photographs. A fourth ring ditch, relating to a previously unrecorded barrow, has also been located in the north western corner of the site.

5.1.3 A number of linear features have been located in the central part of the site and appear to be associated with the main cluster of three round barrows. Some appear to head towards the barrows and may possibly relate to enclosures. Corresponding low resistance linear anomalies also indicate that these relate to linear ditches. Two pit-like anomalies have also been located. These appear to be positioned between two linear ditches close to two of the barrows and while it is not possible to determine the origin, date or function of these anomalies, they may be of archaeological potential.

5.1.4 In the southern part of the site are at least two positive linear anomalies that appear to extend in a north westerly direction towards the south eastern end of East Kennet long barrow. Although it is not possible to determine the date or function of these linear ditches, they do appear to have been truncated by other parallel linear features that may relate to lynchets within this part of the survey area.

5.1.5 The south eastern corner of the survey area contains a group of anomalies

associated with a rectangular enclosure, with dimensions of 85m by 63m. It appears to be defined by an external ditch and internal bank, with evidence for an central bank and ditch within the interior. It is possible that this relates to a medieval sheep enclosure. A number of lynchets or former land divisions are located to the west of the enclosure and also a broad linear response extends northwards from the north west corner.

6 REFERENCES

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Appendix A – basic principles of magnetic survey

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

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

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

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

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

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

Magnetic survey or magnetometry can be carried out using a fluxgate gradiometer and may be referred to as gradiometry. The gradiometer is a passive instrument consisting of two fluxgate sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the upper sensor measures the Earth's magnetic field as does the lower sensor but this is influenced to a greater degree by any localised buried field. The difference between the two sensors will relate to the strength the magnetic field created by the buried feature. If no enhanced feature is present the field measured by both sensors will be similar and the difference close to zero.

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

Appendix B – data processing notes

Clipping

Minimum and maximum values are set and replace data outside of the range with those values. Extreme values are removed improving colour or greyscale contrast associated with data values that may be archaeologically significant. It has been found that clipping data to ranges between ±15nT and ±10nT often improves the appearance of features associated with archaeology. Different ranges are applied to data in order to determine the most suitable for anomaly abstraction and display.

Zero Median/Mean Traverse

The median (or mean) of 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 slight differences between the set-up and stability of gradiometer sensors and can remove striping. The process can remove archaeological features that run along a traverse so data analysis is also carried out prior its application.

High Pass Filtering

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

Appendix C – survey and data information

COMPOSITE
Filename: J536-mag-proc.xcp
Description: Imported as Composite from: J536-mag.asc
Instrument Type: Sensys DLMGPS
Units: nT
UTM Zone: 30U
Survey corner coordinates (X/Y):
Northwest corner: 411686.373487275, 167113.539085687 m
Southeast corner: 411950.893487275, 166637.029085687 m
Direction of 1st Traverse: 90.1318818625553 deg
Collection Method: Parallel
Sensors: 1
Dummy Value: 32702

Source GPS Points: 4069900

Dimensions
Composite Size (readings): 1556 x 2803
Survey Size (meters): 265 m x 477 m
Grid Size: 265 m x 477 m
X Interval: 0.17 m
Y Interval: 0.17 m

Stats
Max: 20.00
Min: -20.00
Std Dev: 4.54
Mean: 0.14
Median: 0.05
Composite Area: 12.605 ha
Surveyed Area: 11.171 ha

PROGRAM
Name: TerraSurveyor
Version: 3.0.25.1

Processes: 2
1 Base Layer
2 Clip from -20.00 to 20.00 nT

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to OSGB36).
3 DeStripe Median Traverse:
4 High pass Uniform (median) filter: Window dia: 300
5 Clip from -50.00 to 50.00 nT

Appendix D – digital archive

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

Surveys are reported on in hardcopy (recycled paper) using A4 for text and A3 for plots (all plots are scaled for A3). An OASIS (Online AccesS to the Index of archaeological investigationS) form will be completed and a pdf copy of the report uploaded to the OASIS website. Printed hard copies of the report will be sent to the Wiltshire HER, Mr & Mrs Cameron and the English Heritage South West Team at Bristol, with digital copies sent to Natural England and to the English Heritage Geophysics Team at Fort Cumberland.

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

- TerraSurveyor version 3.0.23.0 (geophysical data analysis),
- ProgeCAD Professional 2014 (report graphics),
- AutoCAD LT 2007 (report figures),
- OpenOffice.org 3.0.1 Writer (document text),
- PDF Creator version 0.9 (PDF archive).

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

- TerraSurveyor grid and composite files for all geophysical data,
- CSV files for raw and processed composites,
- geophysical composite file graphics as Bitmap images,
- AutoCAD DWG files in 2000 and 2007 versions,
- report text as OpenOffice.org ODT file,
- report text as Word 2000 doc file,
- report text as rich text format (RTF),
- report text as PDF,
- PDFs of all figures,
- photographic record in JPEG format.

ENGLISH HERITAGE

English Heritage Geophysical Survey Database Questionnaire

Survey Details

Name of Site: Bowl barrow, 200m east of East Kennett long barrow forming part of a barrow cemetery, East Kennett Manor Farm, East Kennett

County: Wiltshire

NGR Grid Reference (Centre of survey to nearest 100m): SU 11805 16875

Start Date: 22nd April 2014 End Date: 7th May 2014

Geology at site (Drift and Solid): Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (Upper Chalk) in the north western part of the site with Holywell Nodular Chalk Formation and New Pit Chalk Formation (Middle Chalk) over the rest of the site

Known archaeological Sites/Monuments covered by the survey
(Scheduled Monument No. or National Archaeological Record No. if known)

B*owl barrow, 200m east of East Kennett long barrow forming part of a barrow cemetery* (Monument No: 1014036 (SM 28103

Archaeological Sites/Monument types detected by survey
(Type and Period if known. "?" where any doubt).

Bronze Age round barrow or barrows

Surveyor (Organisation, if applicable, otherwise individual responsible for the survey): Archaeological Surveys ltd

Name of Client, if any:
Mr & Mrs James Cameron, East Kennett Manor Farm

Purpose of Survey: Environmental Stewardship Higher Level Scheme aiming to assess the field for the location of the scheduled round barrow and any other undesignated and/or unrecorded archaeological features in order to inform future land management options (eg grassland reversion).

Location of:

a) Primary archive, i.e. raw data, electronic archive etc:
Archaeological Surveys Ltd, 1 West Nolands, Nolands Road, Yatesbury, Calne, SN11 8YD
b) Full Report: As above. Copies also sent to the Wiltshire HER

ENGLISH HERITAGE

Technical Details

(Please fill out a separate sheet for each survey technique used)

Type of Survey (Use term from attached list or specify other):

Magnetometer

Area Surveyed, if applicable (In hectares to one decimal place):
11.2ha

Traverse Separation, if regular: 0.5m **Reading/Sample Interval:20Hz (c10cm)**

Type, Make and model of Instrumentation:

SENSYS MAGNETO®MXPDA 5 channel cart-based system.

For Resistivity Survey:

Probe configuration:

Probe Spacing:

Land use at the time of the survey (Use term/terms from the attached list or specify other):

Arable

ENGLISH HERITAGE

Technical Details

(Please fill out a separate sheet for each survey technique used)

Type of Survey (Use term from attached list or specify other):

Resistivity

Area Surveyed, if applicable (In hectares to one decimal place):

1.1ha

Traverse Separation, if regular: 1m **Reading/Sample Interval:1m**

Type, Make and model of Instrumentation:

Geoscan Research Ltd RM85 resistance meter

For Resistivity Survey:

Probe configuration:

Mobile parallel twin probe array

Probe Spacing:

0.5m electrode separation

Land use at the time of the survey (Use term/terms from the attached list or specify other):

Arable

ENGLISH HERITAGE

Additional Remarks (Please mention any other technical aspects of the survey that have not been covered by the above questions such as sampling strategy, non standard technique, problems with equipment etc.):

Poor mobile phone coverage for Leica SmartNet GPS positional corrections. Leica GS15 Base station hired and used as a base and rover system to give GPS positional corrections

List of terms for Survey Type

Magnetometer (includes gradiometer)

Resistivity

Resistivity Profile

Magnetic Susceptibility

Electro-Magnetic Survey

Ground Penetrating Radar

Other (please specify)

ENGLISH HERITAGE

List of terms for Land Use:

Arable
Grassland - Pasture
Grassland - Undifferentiated
Heathland
Moorland
Coastland - Inter-Tidal
Coastland - Above High Water
Allotment
Archaeological Excavation
Garden
Lawn
Orchard
Park
Playing Field
Built-Over
Churchyard
Waste Ground
Woodland
Other (please specify)

Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Map of survey area

● Survey location

Site centred on OS NGR
SU 11805 66875

SCALE 1:25 000

0m 500m 1000m

SCALE TRUE AT A3

FIG 01

Archaeological Surveys Ltd

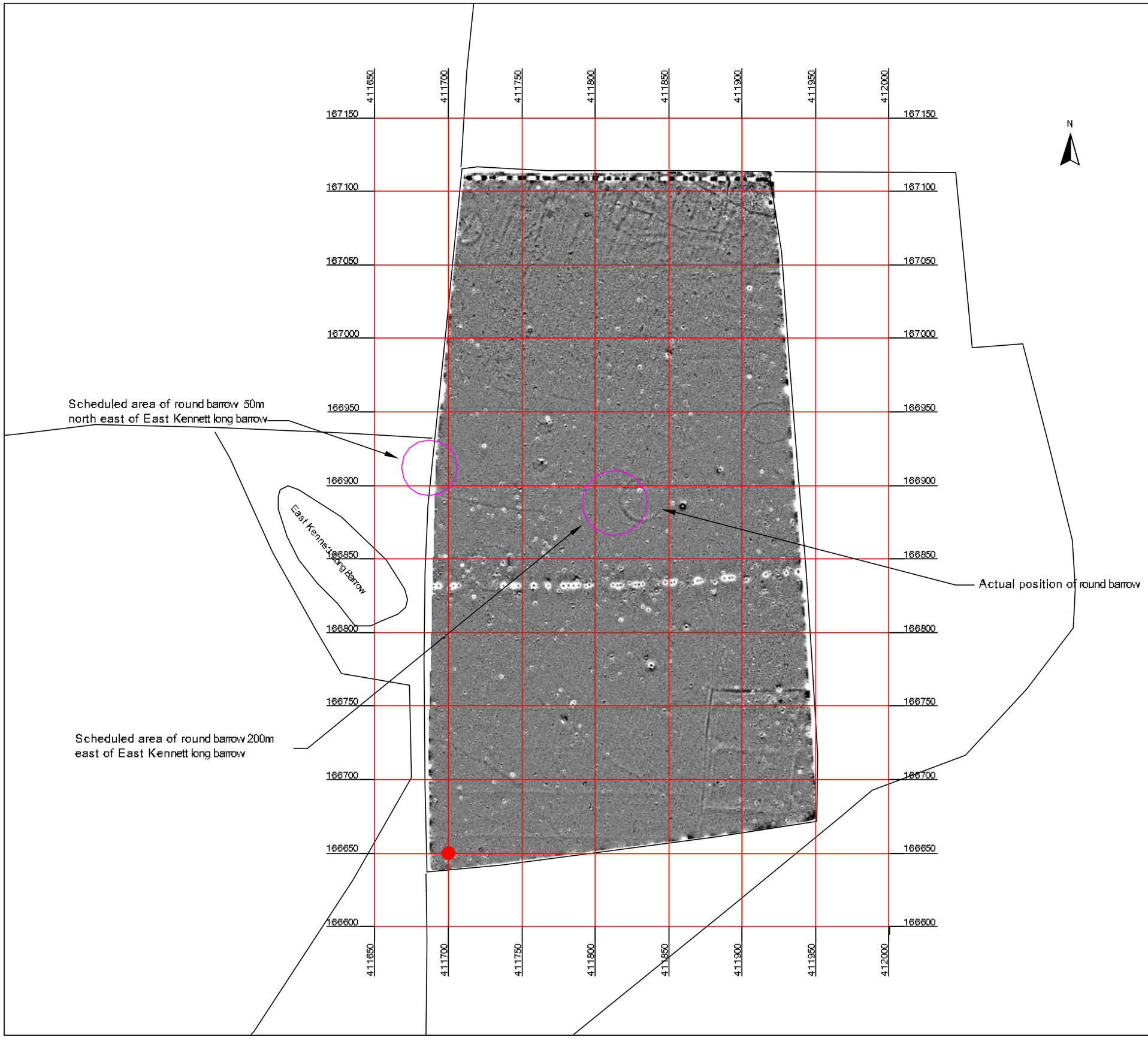
Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Referencing information

Referencing grid to OSGB36 datum at 50m intervals

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

411700 166850



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0m 50 100m

SCALE TRUE AT A1

FIG 02

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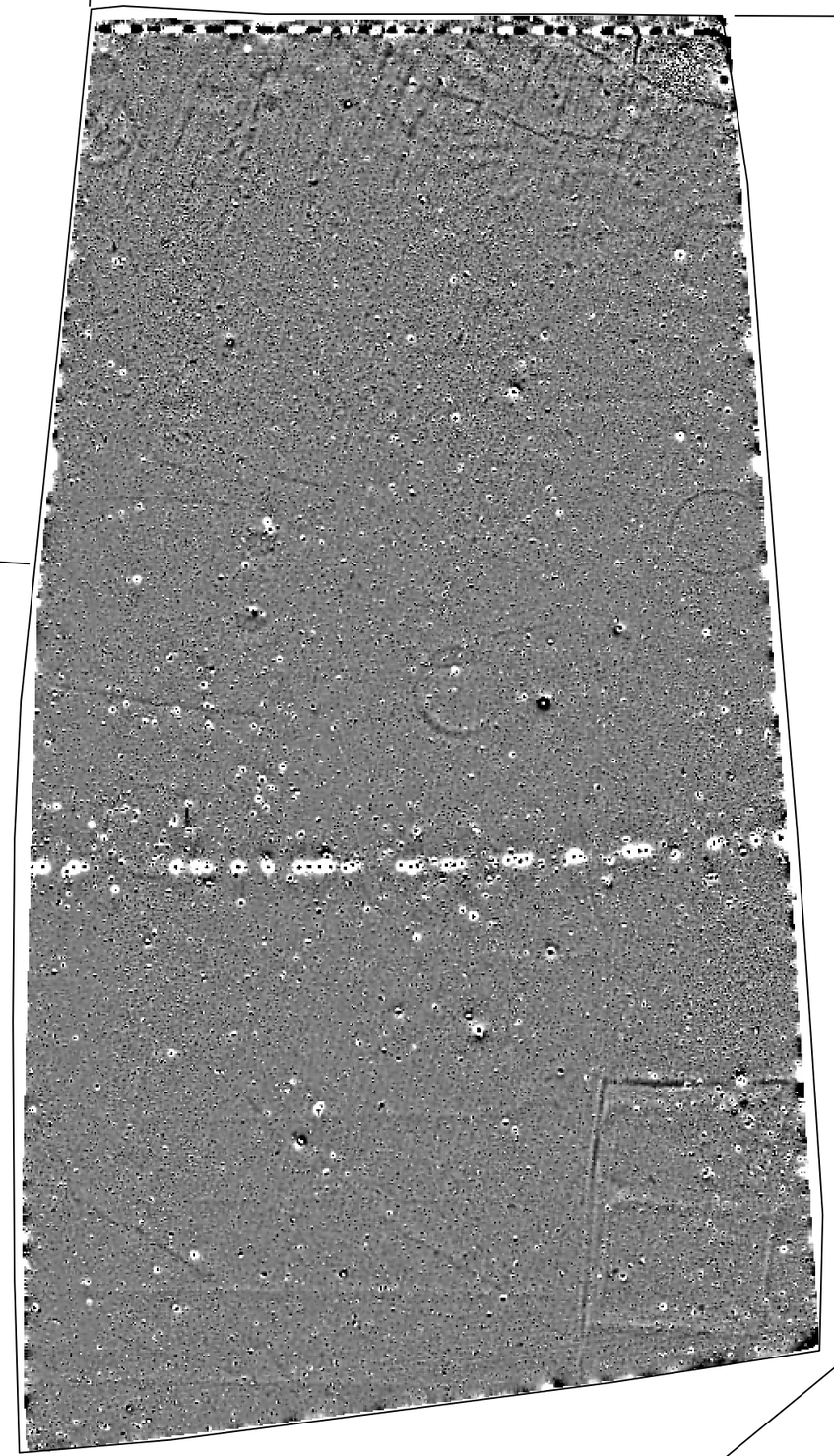
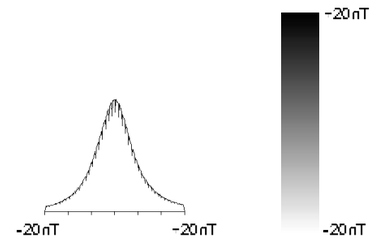
Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire



East Kennett Long Barrow

N

Greyscale plot of processed magnetometer data



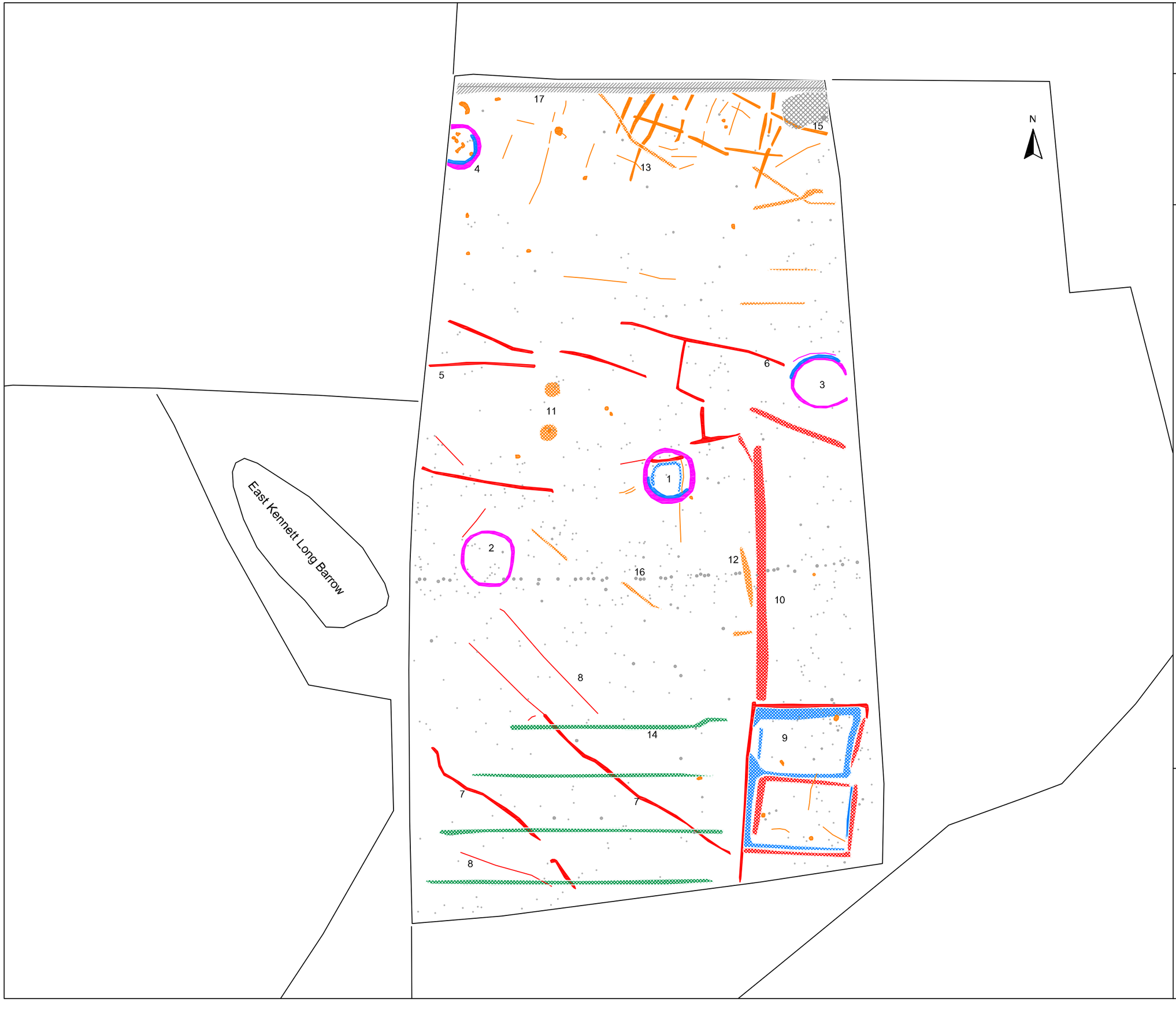
SCALE 1:2000

SCALE TRUE AT A1

FIG 03

Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire



Abstraction and interpretation of magnetometer anomalies

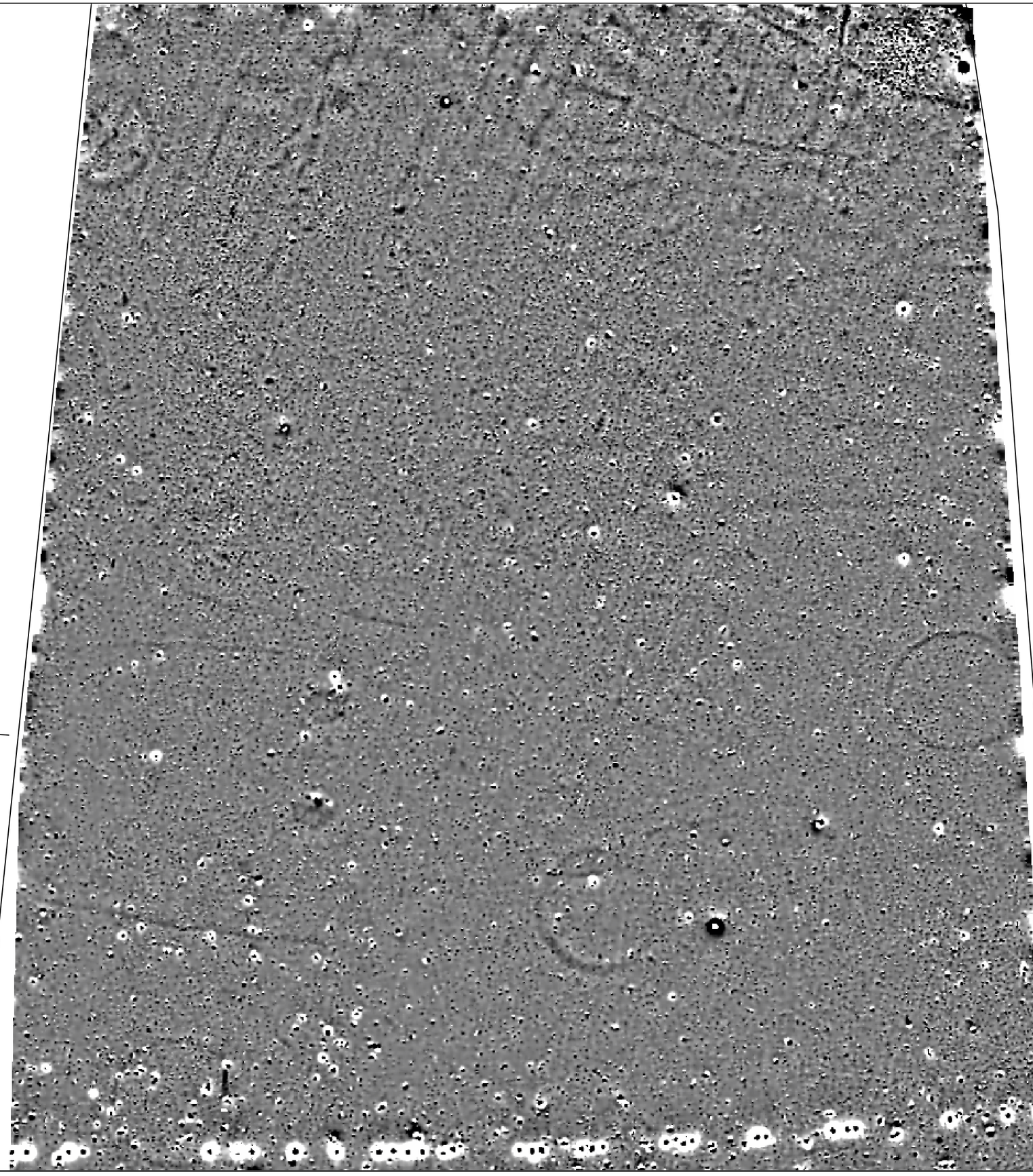
- Positive linear anomaly - cut feature of archaeological potential
- Positive curvililinear anomaly - ring ditch
- Negative curvililinear anomaly - possible bank
- Positive linear anomaly - possible ditch-like feature
- Positive anomaly - magnetically enhanced material of archaeological potential
- Negative anomaly - material of low magnetic susceptibility of archaeologcial potential
- Positive & negative anomaly - of agricultural origin, possible lynchet?
- Positive anomaly - magnetically enhanced material
- Discrete positive response - possible pit-like feature
- Magnetic debris - spread of magnetically thermoremnant/ferrous material
- Magnetic disturbance from ferrous material
- Strong multiple dipolar linear anomaly - pipeline / cable / service
- Strong dipolar anomaly - ferrous object

SCALE 1:2000

0m 10 20 30 40 50m

SCALE TRUE AT A3

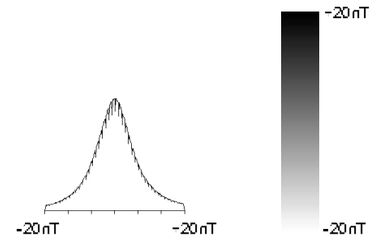
FIG 04



Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Greyscale plot of processed magnetometer data - north



SCALE 1:1000

SCALE TRUE AT A1

FIG 05

Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Abstraction and interpretation of magnetometer anomalies - north

- Positive linear anomaly - cut feature of archaeological potential
- Positive curvilinear anomaly - ring ditch
- Negative curvilinear anomaly - possible bank
- Positive linear anomaly - possible ditch-like feature
- Positive anomaly - magnetically enhanced material of archaeological potential
- Positive anomaly - magnetically enhanced material
- Discrete positive response - possible pit-like feature
- Magnetic debris - spread of magnetically thermoremnant/ferrous material
- Strong dipolar anomaly - ferrous object
- Magnetic disturbance from ferrous material

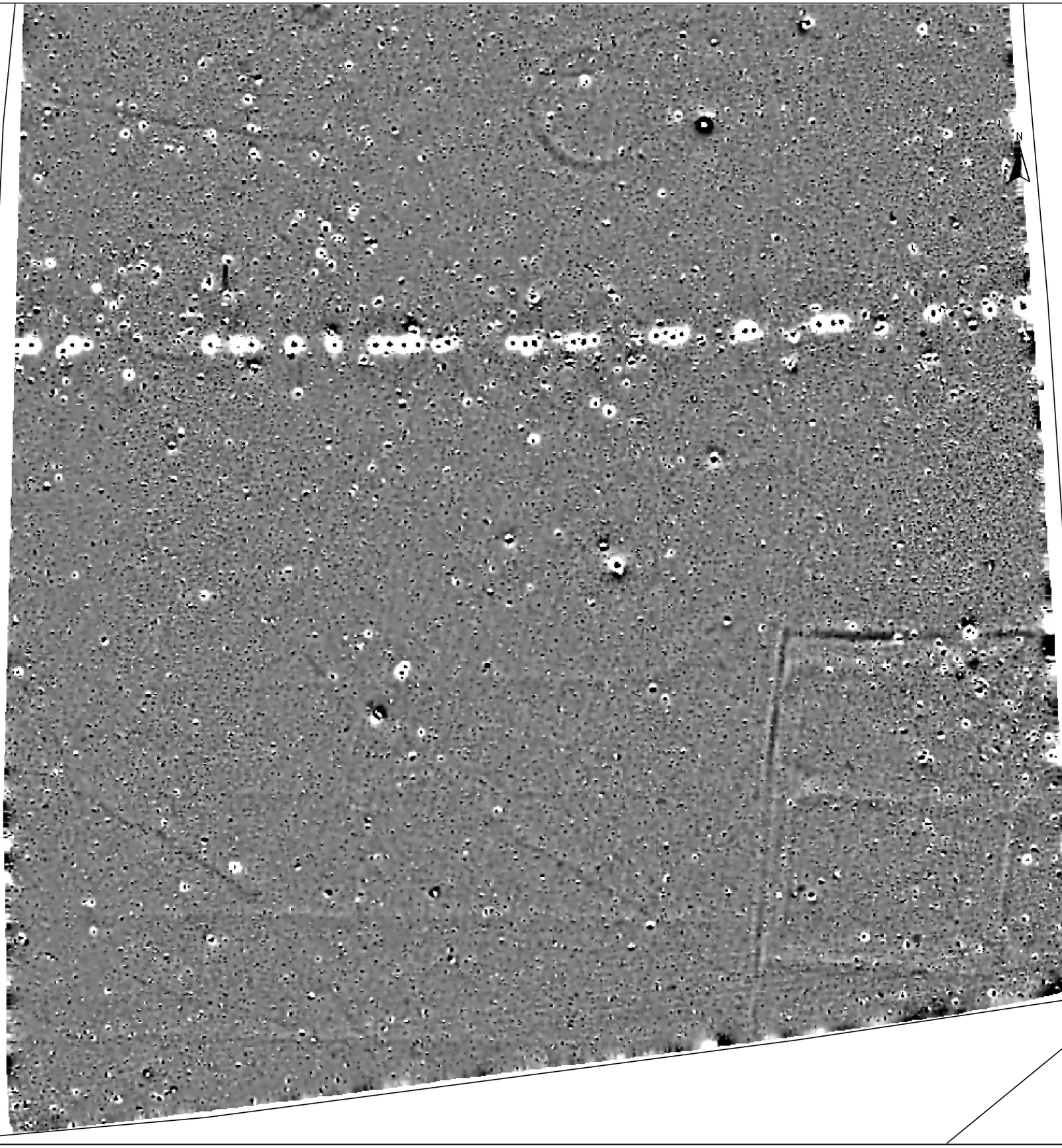
N

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

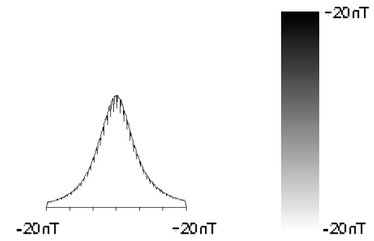
FIG 06



Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Greyscale plot of processed magnetometer data - south



SCALE 1:1000

SCALE TRUE AT A1

FIG 07

Archaeological Surveys Ltd

Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

Abstraction and interpretation of magnetometer anomalies - south

- Positive linear anomaly - cut feature of archaeological potential
- Positive curvililinear anomaly - ring ditch
- Negative curvililinear anomaly - possible earthwork
- Positive linear anomaly - possible ditch-like feature
- Positive anomaly - magnetically enhanced material of archaeological potential
- Negative anomaly - material of low magnetic susceptibility of archaeologcial potential
- Positive & negative anomaly - of agricultural origin, possible lynchett
- Positive anomaly - magnetically enhanced material
- Discrete positive response - possible pit-like feature
- Strong dipolar anomaly - ferrous object

SCALE 1:1000

0m 10 20 30 40 50m

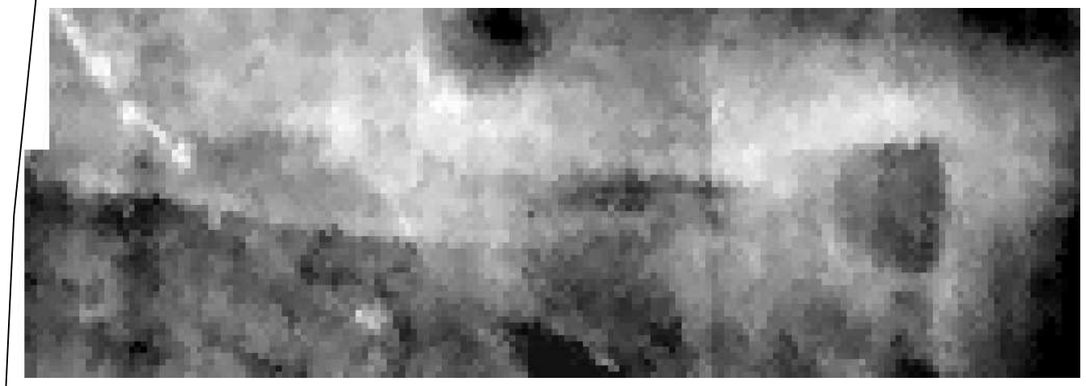
SCALE TRUE AT A3

FIG 08

Archaeological Surveys Ltd

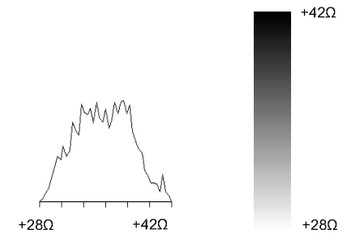
Geophysical Survey
East Kennett Manor Farm
East Kennett
Wiltshire

East Kennett Long Barrow

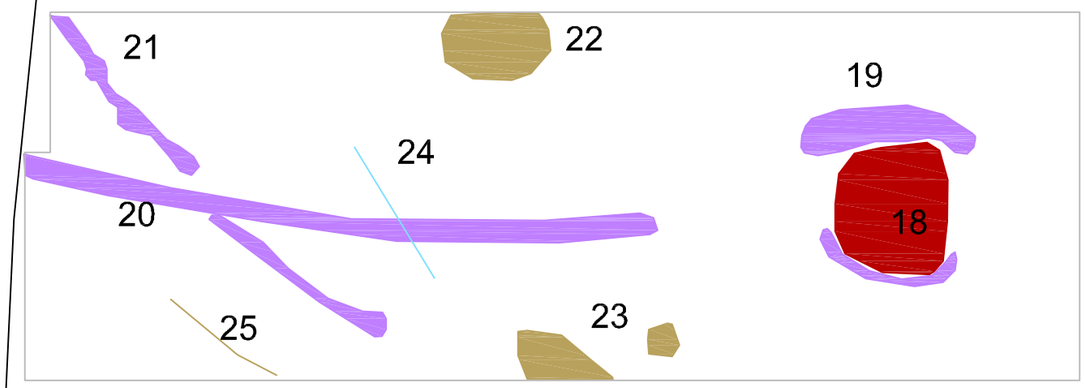


N

Greyscale plot of processed resistivity data



East Kennett Long Barrow



Resistivity abstraction and interpretation plot

- Low resistance linear anomaly - cut feature of archaeological potential
- Low resistance linear anomaly of uncertain origin
- High resistance linear anomaly of uncertain origin
- High resistance discrete anomaly assocaited with barrow mound
- High resistance discrete anomaly of uncertain origin

SCALE 1:1000

SCALE TRUE AT A3

FIG 09