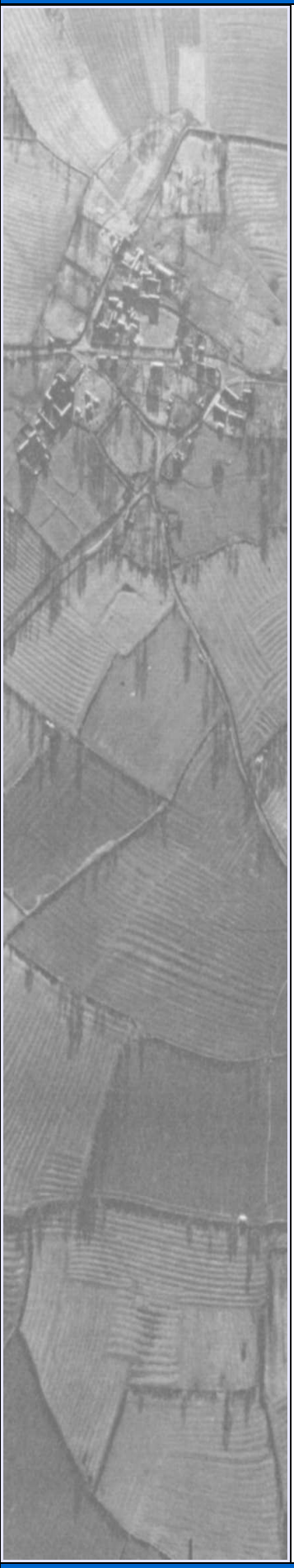

Land at Faulkland
Somerset

MAGNETOMETER SURVEY REPORT

for

AC Archaeology

David Sabin and Kerry Donaldson

September 2013

Ref. no. 496

ARCHAEOLOGICAL SURVEYS LTD

Land at Faulkland
Somerset

Magnetometer Survey Report

for

AC Archaeology

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

Survey date – 15th August 2013
Ordnance Survey Grid Reference – **ST 73765 5454**

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SUMMARY

A detailed magnetometer survey was carried out by Archaeological Surveys Ltd on land at Faulkland in Somerset. The survey located a number of anomalies with archaeological potential that include a possible sub-rectangular enclosure and several linear and curvilinear ditches and pits. Many other anomalies were encountered which may also relate to cut features or extant earthworks; however, these lack a coherent form and cannot be confidently interpreted.

1 INTRODUCTION

1.1 Survey background

1.1.1 Archaeological Surveys Ltd was commissioned by AC Archaeology to undertake a magnetometer survey of an area of land at Faulkland in Somerset. The survey forms part of an archaeological assessment of the site aimed to inform any future land use.

1.2 Survey objectives and techniques

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

1.2.2 The survey and report generally follow the recommendations set out by: English Heritage (2008) *Geophysical survey in archaeological field evaluation;* and Institute for Archaeologists (2002) *The use of Geophysical Techniques in Archaeological Evaluations*. The work has been carried out to the 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 on the northern edge of Faulkland in the parish of Hemington in Somerset. It is centred on Ordnance Survey National Grid Reference (OS NGR) ST 73765 54545, see Figures 01 and 02.

1.3.2 The geophysical survey covers approximately 1ha of pasture land. It contains a number of visible former field boundaries and evidence of a former building in the southern part of the site, with the most south eastern part of the site being at least 0.5m lower than the rest of the area. The northern part of the site contains numerous earthwork features.

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

the survey were variable with periods of very heavy rain.

1.4 Site history and archaeological potential

1.4.1 The Somerset Historic Environment Record lists that a number of earthworks and terraced platforms have been identified in the surrounding vicinity. These suggest an area of deserted Medieval settlement to the north west of the village, and it is possible that the earthwork features within the survey area are associated. There is some potential for the magnetometer survey to locate anomalies that relate to archaeological features.

1.5 Geology and soils

1.5.1 The underlying geology is mudstone from the Forest Marble Formation (BGS, 2013).

1.5.2 The overlying soils across the site are from the Elmton 2 association which are brown rendzinas. These consist of shallow, well drained, brashy calcareous fine loamy soils (Soil Survey of England and Wales, 1983).

1.5.3 Detailed magnetometer surveys carried out on similar soils and geology have demonstrated a good magnetic contrast between the fill of cut features and the material into which they are cut.

2 METHODOLOGY

2.1 Technical synopsis

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

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

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

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

2.2 Equipment configuration, data collection and survey details

2.2.1 The detailed magnetic survey was carried out using a Bartington Grad 601-2 gradiometer. The instrument effectively measures a magnetic gradient between two fluxgate sensors mounted vertically 1m apart. Two sets of sensors are mounted on a single frame 1m apart horizontally.

2.2.2 The instrument is extremely sensitive and is able to measure magnetic variation to 0.01nanoTesla (nT), with an effective resolution of 0.03nT. The data are limited to ±100nT when surveying with the highest sensitivity. All readings are saved to an integral data logger for analysis and presentation.

2.2.3 The instrument is operated according to the manufacturer's instructions with consideration given to the local conditions. An adjustment procedure is required, prior to collection of data, in order to balance the sensors and remove the effects of the Earth's magnetic field; further adjustment is required during the survey due to instrument drift often associated with temperature change.

2.2.4 It can be very difficult to obtain optimum balance for the sensors due to localised magnetic vectors that may be associated with large ferrous objects, geological/pedological features, 'magnetic debris' within the topsoil and natural temperature fluctuations. Imperfect balance results in a heading error often visible as striping within the data; this can be effectively removed by software processing and generally has little effect on the data unless extreme.

2.2.5 The Bartington gradiometer undergoes regular servicing and calibration by the manufacturer. A current assessment of the instrument is shown in Table 1 below.

Sensor type and serial numbers	Bartington Grad - 01 – 1000 Nos. 085, 396
Date of certified calibration/service	Sensors 084 and 085 - 17th August 2012 (due Aug 2014) Sensors 242 and 396 - 14th October 2011 (due Oct 2013)
Bandwidth	12Hz (100nT range) both sensors
Noise	<100pT peak to peak
Adjustable errors	<2nT

Table 1: Bartington fluxgate gradiometer sensor calibration results

The instrument was considered to be in good working order prior to the survey with no known faults or defects.

2.2.6 Data were collected at 0.25m centres along traverses 1m apart. The survey

area was separated into 30m by 30m grids (900m²) giving 3600 recorded measurements per grid. This sampling interval is very effective at locating archaeological features and is the recommended methodology for archaeological prospection (English Heritage, 2008).

2.2.7 The 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).

2.2.8 The fixed orientation of survey grids based on the OSGB36 datum was considered appropriate given that the orientation of land boundaries was variable and consequently partial survey grids were unavoidable. In addition, there is an optimum north – south traverse direction for magnetic survey (English Heritage, 2008). Survey in this direction can produce anomalies with a higher contrast when compared to other orientations; this is a function of their presence within the Earth's magnetic field. A fixed grid across the site also simplifies its relocation should that be required.

2.3 Data processing and presentation

2.3.1 Magnetometry data downloaded from the Grad 601-2 data logger are analysed and processed in specialist software known as ArcheoSurveyor (now known as TerraSurveyor). The software allows greyscale and trace plots to be produced for presentation and display. Survey grids are assembled to form an overall composite of data (composite file) creating a dataset of the complete survey area. Appendix C contains specific information concerning the survey and data attributes and is derived directly from ArcheoSurveyor; this should be used in conjunction with information provided by Figure 02.

2.3.2 Only 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:

- clipping of the raw data at ±30nT to improve greyscale resolution,
- clipping of processed data at ±3nT to enhance low magnitude anomalies,
- de-stagger is used to enhance linear anomalies,
- zero median/mean traverse is applied in order to balance readings along each traverse.

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 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.

2.3.4 The main form of data display prepared for this report is the greyscale plot. Both 'raw' and 'processed' data have been shown 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.

2.3.5 Graphic raster images in bitmap format (.BMP) are initially prepared in ArcheoSurveyor. Regardless of survey orientation, data captured along each traverse are displayed and processed by ArcheoSurveyor 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.

2.3.6 The raster images are combined with base mapping using ProgeCAD Professional 2009 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.

2.3.7 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 1ha within one survey area.

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, anomalies associated with land management, areas of magnetic debris and disturbance and strong discrete dipolar anomalies relating to ferrous objects.

3.2 Statement of data quality

3.2.1 Data are considered representative of the magnetic anomalies present within the site. There are no significant defects in the dataset. Zones of magnetic disturbance are related to modern ferrous objects immediately beyond the surveyed area. It is unlikely that these zones have obscured more minor

anomalies.

3.3 Data interpretation

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

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 DISCRETE ARCHAEOLOGY AS-ABST MAG NEG LINEAR ARCHAEOLOGY	Anomalies have the characteristics (mainly morphological) of a range of archaeological features such as pits, ring ditches, enclosures. Negative anomalies are produced by material of comparatively low magnetic susceptibility such as stone and subsoil and may relate to earthworks or embankments.
Anomalies with an uncertain origin AS-ABST MAG POS LINEAR UNCERTAIN AS-ABST MAG NEG LINEAR UNCERTAIN AS-ABST MAG POS DISCRETE UNCERTAIN AS-ABST MAG POS UNCERTAIN AS-ABST MAG NEG UNCERTAIN	The category applies to a range of anomalies where there is not enough evidence to confidently suggest an origin. Anomalies in this category may well be related to archaeologically significant features, but equally relatively modern features, geological/pedological features and agricultural features should be considered. Positive anomalies are indicative of magnetically enhanced soils that may form the fill of 'cut' features or may be produced by accumulation within layers or 'earthwork' features; soils subject to burning may also produce positive anomalies. Negative anomalies are produced by material of comparatively low magnetic susceptibility such as stone and subsoil.
Anomalies relating to land management AS-ABST MAG BOUNDARY	Anomalies are mainly linear and may be indicative of the magnetically enhanced fill of cut features (i.e. ditches). The anomalies may be long and/or form rectilinear elements and they may relate to topographic features or be visible on early mapping.
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. Strong discrete dipolar anomalies are responses to ferrous objects within the topsoil.
Anomalies with a modern origin AS-ABST MAG DISTURBANCE	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 such 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 and with hysteresis adjacent to strong magnetic sources.

Table 2: List and description of interpretation categories

3.4 List of anomalies

Area centred on OS NGR 373765 154545, see Figures 04 & 05.

Anomalies of archaeological potential

(1) – Positive rectilinear anomalies appear to form three sides of a possible sub-rectangular enclosure. The anomaly appears to extend across a former land boundary (9) and can be seen either side of it, even though the land to the east is at least 0.5m lower than that to the west of (9). The response is between 5-8nT, peaking at 19nT along the eastern section. There is also a negative response which may indicate walling or earthwork remains.

(2) – A group of positive linear, curvilinear and discrete anomalies are located in the south western part of the site. Although two of these anomalies appear to extend from the linear field boundary (9) and not to the north of it, their form suggests that they relate to cut features with archaeological potential.

(3) – A positive and parallel negative linear anomaly are located in the northern part of the survey area. Their linearity indicates that they may relate to a cut feature, and/or embankment with archaeological potential and they are broadly parallel with the long axis of anomaly (1).

Anomalies with an uncertain origin

(4) – A group of positive anomalies with some strong dipolarity and associated negative response are located close to the south western corner of the survey area. The response is moderately strong, generally between 5-9nT, peaking at over 40nT. These anomalies may indicate cut features or potential structural remains; however, a modern origin cannot be ruled out.

(5) – A number of positive and negative anomalies can be seen within and to the north of anomaly (1). These may indicate localised quarrying and/or ground disturbance.

(6) – A broad positive response is located to the north of anomalies (5). It is possible that this feature is associated with an embankment or earthwork feature within the field, relating to an increased depth of topsoil.

(7) – A number of weakly positive linear anomalies can be seen in the northern part of the survey area. It is possible that they are associated with former agricultural activity, but this is not certain.

(8) – The survey area contains a large number of discrete positive responses. These anomalies appear to relate to pit-like features and an archaeological origin should be considered.

(9) – A negative linear anomaly of uncertain origin crosses the eastern part of the survey area.

Anomalies associated with land management

(10) – A positive linear anomaly extends eastwards for 90m from the western field boundary, where it then extends northwards. There is some negative response which is associated with extant walling remains. The east to west field boundary is recorded on Ordnance Survey mapping during the 1880s, but has been removed by 1903. The north south boundary is mapped until 1975 and removed some time after this date.

Anomalies associated with magnetic debris

(11) – To the south of anomaly (10) are a number of zones of magnetic debris. These relate to a former barn or building and field boundaries indicated on mapping until the 1970s.

(12) – Strong, discrete dippolar anomalies are a response to ferrous and other magnetically thermoremnant objects within the topsoil.

Anomalies with a modern origin

(13) – Magnetic disturbance is a response to ferrous fencing and other objects close to the edge of the survey area.

4 CONCLUSION

4.1.1 The survey area contains a number of anomalies with archaeological potential. These include a possible sub-rectangular enclosure located within the eastern part of the site that appears to extend either side of a former land boundary. A group of positive anomalies located within the western part of the site appear to relate to linear and curvilinear cut features and a number of pits. The site also contains other positive discrete, linear and amorphous anomalies of uncertain origin, many are associated with negative responses that could indicate the presence of stone.

4.1.2 Formerly mapped field boundaries and buildings are evident within the results of the survey and are partially visible on the ground. Some of the anomalies located by the survey may be associated with other earthwork features visible across the site.

5 REFERENCES

British Geological Survey, 2013. *Geology of Britain viewer, 1:50 000 scale [online]* available from http://mapapps.bgs.ac.uk/geologyofbritain/home.html [accessed 4/9/2013].

English Heritage, 2008. *Geophysical survey in archaeological field evaluation. Research and Professional Service Guideline No.1.* 2nd ed. Swindon: English Heritage.

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

Institute for Archaeologists, 2011. *Standard and Guidance for archaeological geophysical survey.* IfA, University of Reading.

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

Appendix A – basic principles of magnetic survey

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

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

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

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

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

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

Magnetic survey or magnetometry can be carried out using a fluxgate gradiometer and may be referred to as gradiometry. The 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 ±5nT and ±1nT 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.

De-stagger

Compensates for small positional errors within data collection by shifting the position of the readings along each traverse by a specified amount. Data lost at the end of each traverse are extrapolated from adjacent value in the same row.

Deslope

Corrects for striping and distortion caused by metal objects/services etc.. The process calculates a curve based on a polynomial best fit mathematical function for each traverse. This curve is then subtracted from the actual data.

Edge Match

Calculates the mean of the 2 lines (rows or columns) of data either side of the edge to match. It then subtracts the difference between the means from all datapoints in the selected area.

FFT (Fast Fourier Transform) spectral filtering

A mathematical process used to determine the frequency components of a traverse. Repetitive features, such as plough marks, produce characteristic spectral zones that can be suppressed allowing greyscale images to appear clearer.

Appendix C – survey and data information

Raw magnetometer data

COMPOSITE
Filename: J496-mag-raw.xcp
Instrument Type: Bartington (Gradiometer)
Units: nT
Surveyed by: on 15/08/2013
Assembled by: on 15/08/2013
Direction of 1st Traverse: 0 deg
Collection Method: ZigZag
Sensors: 2 @ 1.00 m spacing.
Dummy Value: 32702

Dimensions
Composite Size (readings): 600 x 150
Survey Size (meters): 150 m x 150 m
Grid Size: 30 m x 30 m
X Interval: 0.25 m
Y Interval: 1 m

Stats
Max: 30.00
Min: -30.00
Std Dev: 5.64
Mean: -0.72
Median: -0.59
Composite Area: 2.25 ha
Surveyed Area: 0.87355 ha

PROGRAM
Name: TerraSurveyor
Version: 3.0.22.0

Processes: 2
1 Base Layer
2 Clip from -30.00 to 30.00 nT

Source Grids: 18
1 Col:0 Row:0 grids\16.xgd
2 Col:0 Row:1 grids\17.xgd
3 Col:0 Row:2 grids\18.xgd
4 Col:1 Row:0 grids\13.xgd
5 Col:1 Row:1 grids\14.xgd
6 Col:1 Row:2 grids\15.xgd
7 Col:2 Row:0 grids\08.xgd
8 Col:2 Row:1 grids\09.xgd
9 Col:2 Row:2 grids\10.xgd
10 Col:2 Row:3 grids\11.xgd
11 Col:2 Row:4 grids\12.xgd
12 Col:3 Row:0 grids\03.xgd
13 Col:3 Row:1 grids\04.xgd
14 Col:3 Row:2 grids\05.xgd
15 Col:3 Row:3 grids\06.xgd
16 Col:3 Row:4 grids\07.xgd
17 Col:4 Row:1 grids\01.xgd
18 Col:4 Row:2 grids\02.xgd

Processed magnetometer data

COMPOSITE
Filename: J496-mag-proc.xcp

Stats
Max: 3.00
Min: -3.00
Std Dev: 1.92
Mean: -0.18
Median: -0.24
Composite Area: 2.25 ha
Surveyed Area: 0.87355 ha

Processes: 5
1 Base Layer
2 Clip from -10.00 to 10.00 nT
3 DeStripe Mean Traverse: Grids: All Threshold: 1 SDs
4 De Stagger: Grids: 04.xgd 05.xgd Mode: Both By: 1 intervals
5 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 (see inside cover for address). Data are backed-up onto an on-site data storage drive and at the earliest opportunity data are copied to CD ROM for storage on-site and off-site.

Surveys are reported on in hardcopy (recycled paper) using A4 for text and A3 for plots (all plots are scaled for A3). The distribution of both hardcopy report and digital data is considered the responsibility of the Client unless explicitly stated in the survey Brief, Written Scheme of Investigation or other contractual agreement.

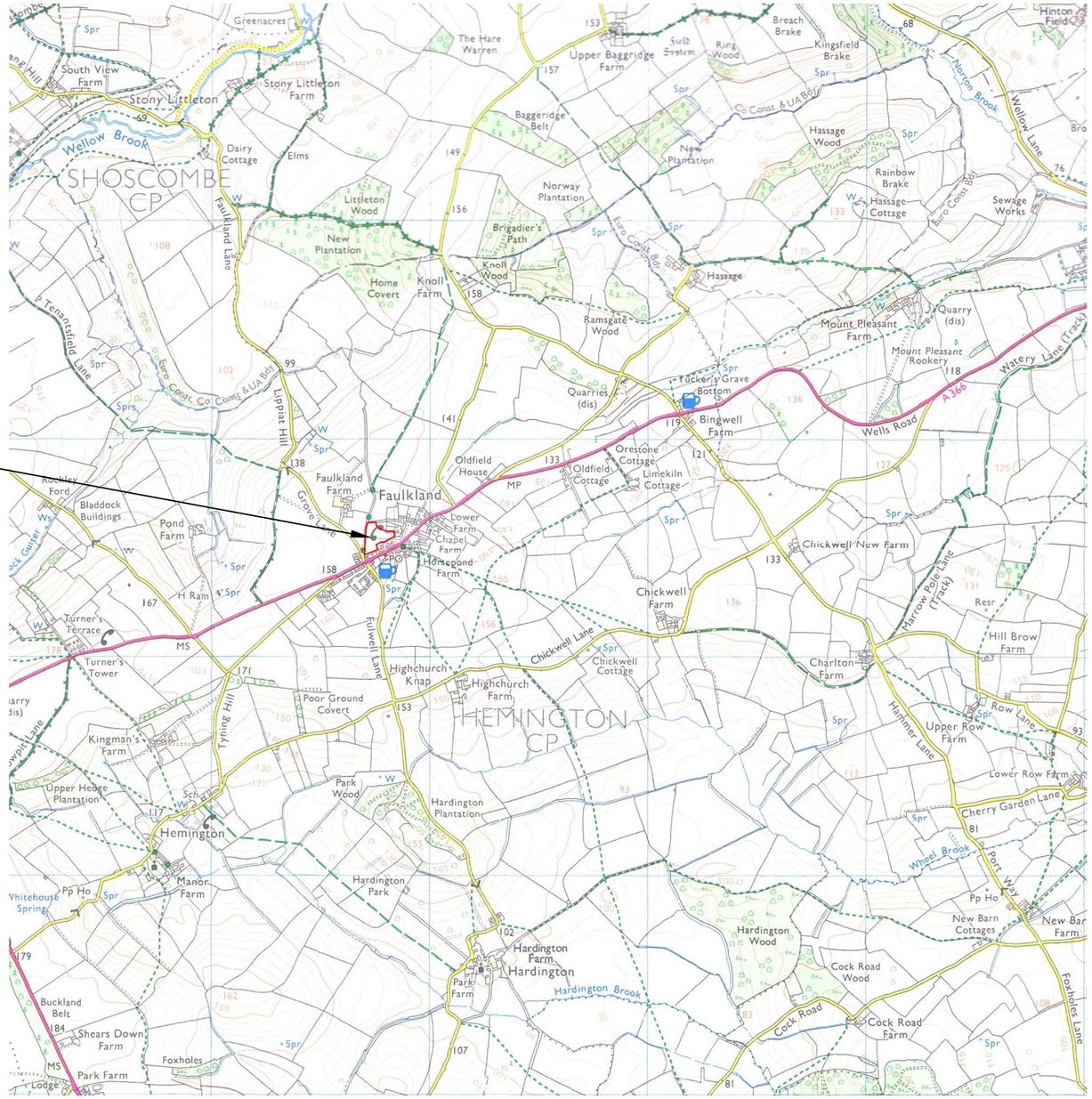
This report has been prepared using the following software on a Windows XP platform:

- ArcheoSurveyor version 2.5.19.3 / TerraSurveyor 3.0.22.0 (geophysical data analysis),
- ProgeCAD Professional 2009 (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:

- ArcheoSurveyor 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.

Survey location



Archaeological Surveys Ltd

Geophysical Survey
Land at Faulkland
Somerset

Map of survey area

● Survey location

Site centred on OS NGR
ST 73765 54545

SCALE 1:25 000

0m 500m 1000m

SCALE TRUE AT A3

FIG 01

Archaeological Surveys Ltd

Geophysical Survey
Land at Faulkland
Somerset

Referencing information

Grid coordinates based on Ordnance Survey OSGB36 datum

Grids set out using RTK GPS with Leica SmartNet correction data RTCMv2 format OSTN02 transformation

Survey grid size = 30m

Survey start and traverse direction

01 Grid reference number and filename

SCALE 1:1000

0m 10 20 30 40 50m

SCALE TRUE AT A3

FIG 02

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18

373710

373830

154550

154550

158.1m

153.1m

148.5m

144.4m

BM 153.34m

GP

Byre Croft

217

218

Woodstock

N

The Green Farm House

The Green Man

Hall

Mellowstones

Green Barn

Stocks

Village Green

Fair View

The Cottage

TCB

Pond

Stone

Pond

Oaklea

New Farm Building

BISHOP STREET

Rock Cottage

Horseshoe Cottage

Rose Cottage

Finlandia

Rosedene

Wellspring

Acorn Cottage

Two Steps

Wayside

PO

West Farm

Horsepon Farm

Ashgrave

Walkham

Nidien Cottage

Pippins

Appletree Cottage

Meadowside

The Faulkland Inn PH

Tank

Archaeological Surveys Ltd

Geophysical Survey
Land at Faulkland
Somerset

Greyscale plot of raw magnetometer data

+30nT

-30nT +30nT

-30nT

N

Green Barn

New Farm Building

148.5m

Rose

SCALE 1:500

0m 5 10 15 20 25m

SCALE TRUE AT A3

FIG 03

Archaeological Surveys Ltd

Geophysical Survey
Land at Faulkland
Somerset

Greyscale plot of processed magnetometer data

+3nT

-3nT +3nT

-3nT

SCALE 1:500

0m 5 10 15 20 25m

SCALE TRUE AT A3

FIG 04

N

Green Barn

New Farm Building

148.5m

Rose

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Geophysical Survey
Land at Faulkland
Somerset

Abstraction and interpretation of magnetometer anomalies

- Positive linear anomaly - cut feature of archaeological potential
- Negative linear anomaly - possible earthwork/embankment
- Positive linear anomaly - possible ditch-like feature
- Negative linear anomaly - material of low magnetic susceptibility
- Positive linear anomaly - possible former field boundary
- Discrete positive response - cut feature of archaeological potential
- Discrete positive response - possible pit-like feature
- Positive anomaly - magnetically enhanced material
- Negative anomaly - material with low magnetic susceptibility
- Magnetic debris - spread of magnetically thermoremnant/ferrous material
- Magnetic disturbance from ferrous material
- Strong dipolar anomaly - ferrous object

SCALE 1:500

0m 5 10 15 20 25m

SCALE TRUE AT A3

FIG 05