



SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK

DETAILED MAGNETOMETER SURVEY



Report Number: 1012

1st November 2012



**SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA,
SUFFOLK**

Detailed Magnetometer Survey

Prepared for:
Jane Hunting MSc
Richard Pike Associates
4 Netherconesford
93-95 King Street
Norwich
Norfolk
NR1 1PW

By:
Timothy Schofield HND BSc PIfA

Britannia Archaeology Ltd
4 The Mill, Clovers Court,
Stowmarket, Suffolk,
IP14 1RB

T: 01449 763034

info@britannia-archaeology.com

www.britannia-archaeology.com

Registered in England and Wales: 7874460

Site Code	HNN 021	NGR	NGR TL 900 749
Planning Ref.	SE/12/1069/FUL	OASIS	britanni1-137601
Approved By	Matthew Adams	DATE	
		1 st November 2012	



DISCLAIMER

The material contained within this report was prepared for an individual client and solely for the benefit of that client and the contents should not be relied upon by any third party. Britannia Archaeology Ltd will not be held liable for any loss or damage, direct, indirect or consequential, through misuse of, or actions based on the material contained within by any third party.

The results and interpretation of the report cannot be considered an absolute representation of the archaeological or any other remains. In the case of geophysical surveys the data collected, and subsequent interpretation is a representation of anomalies recorded by the survey instrument. Britannia Archaeology Ltd will not be held liable for any errors of fact supplied by a third party, or guarantee the proper maintenance of the survey stations.



CONTENTS

	Abstract	Page 3
1.0	Introduction	Page 3
2.0	Site Description	Page 3
3.0	Planning Policies	Page 4
4.0	Archaeological Background	Page 5
5.0	Project Aims	Page 6
6.0	Methodology	Page 6
7.0	Presentation of Results	Page 8
8.0	Discussion & Conclusion	Page 9
9.0	Acknowledgements	Page 10
10.0	Project Archive & Deposition	Page 10
	Bibliography	Page 11
Appendix 1	Technical Details	Page 13
Appendix 2	OASIS Sheet	Page 14
Figure 1	Site Location & Proposed Development Plan	1:5000
Figure 2	Site Grid Number & Site Grid Referencing Plan	1:5000
Figure 3	Raw Corrected Magnetometer Greyscale Plot Small Field	1:1000
Figure 4	Raw Corrected Magnetometer XY Trace Plot Small Field	1:1000
Figure 5	Interpretation Plot of Magnetometer Data Small Field	1:1000
Figure 6a	Raw Corrected Magnetometer Greyscale Plot Large Field	1:1000
Figure 6b	Raw Corrected Magnetometer Greyscale Plot Large Field	1:1000
Figure 6c	Raw Corrected Magnetometer Greyscale Plot Large Field	1:1000
Figure 7a	Raw Corrected Magnetometer XY Trace Plot Large Field	1:1000
Figure 7b	Raw Corrected Magnetometer XY Trace Plot Large Field	1:1000
Figure 7c	Raw Corrected Magnetometer XY Trace Plot Large Field	1:1000
Figure 8	Interpretation Plot of Magnetometer Data Large Field	1:2500



ABSTRACT

Detailed fluxgate gradiometer survey on two fields at Thetford Road, Fakenham Magna, Suffolk was successful in recording sixty discrete positive anomalies and one positive area anomaly of possible archaeological origin. Twenty seven weak positive linear anomalies demarcating the location of probable agricultural land drains, one broad positive anomaly of probable geological origin, three dipolar linear service pipe runs, large areas of magnetic disturbance a concentration of which may originate from the construction of the air base, and many dipolar 'iron-spike' anomalies were also prospected.

1.0 INTRODUCTION

Between the 15th to the 26th of October 2012, Britannia Archaeology Ltd (BA) undertook 22 hectares of detailed fluxgate gradiometer survey on agricultural land at Thetford Road, Fakenham Magna, Suffolk (NGR TL 900 749) in advance of the construction of a solar farm. The survey was undertaken on behalf of Jane Hunting of Richard Pike Associates in response to a brief (dated 18th September 2012) prepared by Rachael Monk of Suffolk County Council Archaeology Service/Conservation Team (SCCAS/CT). The weather was a mixture of sunshine in the first week, followed by overcast conditions during the second.

2.0 SITE DESCRIPTION

The site is located in an area dominated by agriculture to the south and east, a housing estate lies to the west and Honington RAF Air Base is present to the west and north, a farm track bisects the two fields.

The bedrock is described as Lewes Nodular, Seaford, Newhaven and Culver Chalk Formation formed approximately 71-94 million years ago during the Cretaceous Period when the local environment was dominated by warm chalk seas (BGS, 2012).

Superficial deposits are described as Lowestoft Formation Diamicton, deposits formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions, glaciers scoured the landscape depositing moraines of till. Outwash sands and gravels were deposited during seasonal and post-glacial meltwaters. Head clay, silt, sand and gravel originating from deposits located on subaerial slopes have also accumulated down slope deposited during landslides, debris flow, solifluction, soil creep and hill wash (BGS, 2012).

2.1 Site Visit 27/09/2012

A site visit was undertaken on the 27th September to assess the ground conditions and to undertake a risk assessment. The conditions were found to be suitable for survey with only some straw bales and overhead power cables documented as being causes of concern.



DP1 Small Field Looking South



DP2 Large Field Looking North-West

3.0 PLANNING POLICIES

The archaeological investigation was carried out on the recommendation of the local planning authority, following guidance laid down by the National Planning and Policy Framework (NPPF, DCLD 2012) which replaces Planning Policy Statement 5: Planning for the Historic Environment (PPS5, DCLG 2010). The relevant local planning policies also include the Replacement St Edmundsbury Borough Local Plan 2016, (Policy 9. June 2006).

3.1 National Planning Policy Framework (NPPF, DCLG March 2012)

The NPPF recognises that 'heritage assets' are an irreplaceable resource and planning authorities should conserve them in a manner appropriate to their significance when considering development. It requires developers to record and advance understanding of



the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. The key areas for consideration are:

- The significance of the heritage asset and its setting in relation to the proposed development;
- The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance;
- Significance (of the heritage asset) can be harmed or lost through alteration or destruction, or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification;
- Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred;
- Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

3.2 Replacement St Edmundsbury Borough Local Plan 2016, (Policy 9. June 2006).

The *Replacement St Edmundsbury Borough Local Plan 2016* was adopted in June 2006 and is currently being updated by the Local Development Framework, which is at the consultation phase. Its aims and objectives for heritage and conservation are:

- To maintain and improve the quality of the built environment
- To achieve this aim, the objectives are to:
 - a) retain and enhance the character and appearance of the historic environment and ensure that new development is sensitive to the character of the locality;
 - b) safeguard listed buildings, conservation areas and parks and gardens of special historic or design interest and their settings from inappropriate development;
 - c) protect and conserve the fabric of historic buildings, structures and other features, and the archaeological remains related to them;
 - d) and protect and conserve sites of archaeological importance and their settings.

4.0 ARCHAEOLOGICAL BACKGROUND

The survey was undertaken over 22 hectares of agricultural land located in an area of high archaeological potential. It is close to a number of Bronze Age round barrows and Bronze Age findspots (HER numbers HNN 002, FKM 003, FKM 006 and FKM 008). There is therefore a high potential for archaeological assets to be disturbed by the proposed development. Three bomb craters are present within the larger field that were dropped



on one of the sixteen bombing runs undertaken by the Luftwaffe during the Second World War (RAF, 2012).

5.0 PROJECT AIMS

A geophysical survey is required over the development area to enable the archaeological resource, both in quality and extent, to be accurately quantified.

6.0 METHODOLOGY

6.1 Instrument Type Justification

Britannia Archaeology Ltd employed a Bartington Dual Grad 601-2 fluxgate gradiometer to undertake the survey, because of its high sensitivity and rapid ground coverage. The soils and underlying geology had a relatively very low magnetic background strength, allowing some very weak linear anomalies to be prospected. There was adequate contrast between the anomalies and the low magnetic susceptibility of the moraines, till, head clay and outwash sand and gravel natural drift geology.

6.2 Instrument Calibration

The Magnetometer was left on for a minimum of 20 minutes in the morning for the sensors to settle before the start of the first grid. The instrument was zeroed after every three grids to minimise the effect of sensor drift. A set-up station with low magnetic susceptibility was fairly easy to locate, this same station was used exclusively throughout the survey to align the sensors providing a common zero point. Sensor drift was noted during the outbreaks of sunshine in the first week, conversely the overcast conditions of the second week allowed the sensors to remain stable.

6.3 Sampling Interval and Grid Size

The sampling interval was set at 0.25m along 1m traverse intervals, providing 4 readings a metre, the magnetometer survey was undertaken on 20 x 20m grids.

6.4 Survey Grid Location

The survey grid was set out to the Ordnance Survey OSGB36 datum to an accuracy of $\pm 0.1\text{m}$ employing a Leica Viva Glonass Smart Rover GS08 differential global positioning system (DGPS). Data were then converted to the National Grid Transformation OSTN02 and the instrument was regularly tested using stations with known ETRS89 coordinates. The grids were positioned parallel to the long axis of the field for ease of survey progression, this meant that both fields were set out on a different local grid (Figure 2).



6.5 Data Capture

Instrument readings were recorded on an internal data logger that was downloaded to a laptop at midday and at the end of each day. The grid order was recorded on a BA pro-forma to aid in the creation of the composites. Data were filed in job specific folders and broken up into individual day composite datasets. These data composites were checked for quality on site by BA, allowing grids to be re-surveyed if necessary. The data were backed up onto an external storage device in the office and finally a remote server at the end of the day. A ten metre exclusion zone was left between the boundaries and the survey area to reduce the amount of disturbance caused by metal boundary fences, the air base had 3m high metal fences. Topographic details were recorded using the DGPS, these included bomb craters, straw bales, telegraph poles and inspection chambers (see Figures 1, 5 and 8).

6.6 Data Presentation and Processing

The raw corrected greyscale and XY trace plots were of a high enough quality that processed datasets were not required. Corrections allowing the dataset to be viewed in a raw format are shown below.

De-spike:	X diameter = 3, Y diameter = 3, Threshold = 1, centre value=mean, replace with = mean;
Data Clipping:	1 standard deviation;
De-stripe:	Traverse, Median, X (Horizontal).
Data Display:	Clip to -1/+1.

An interpretation plan characterising the anomalies recorded can be found at Figure 5 and 8. They draw together the evidence collated from both greyscale and XY trace plots (Figures 3, 4, 6 & 7). All figures were tied into the National Grid and printed to an appropriate scale.

6.7 Software

Raw data was downloaded using Bartington software Grad601 and will be stored in this format as raw data. The software used to process the data and produce the composites was DW Consulting's Archeosurveyor v2.0. Datasets were exported into AutoCAD and placed onto the local survey grid. An interpretation plot was then produced using AutoCAD.

6.8 Grid Restoration

Britannia Archaeology Ltd positioned four reference stations (orange wooden stakes) in the field (Figure 2) along the baselines, these same stations should be used to relocate the grid and geophysical anomalies.



7.0 PRESENTATION OF RESULTS

7.1 *Small Field*

Data recorded in the smaller field revealed six discrete positive anomalies, twenty seven weak positive linear anomalies, areas of magnetic disturbance along the site boundaries and many dipolar 'iron-spike' anomalies throughout the dataset.

The positive discrete anomalies (Figures 3, 4 and 5) were clustered in the central third of the field and are commonly indicative of rubbish pits of archaeological origin. However a more modern or even geological origin cannot be ruled out. Patches of sand present within the natural drift geology usually have higher magnetic susceptibility readings than the surrounding till, this can cause pit-like features to appear in the dataset.

Twenty seven weakly positive linear anomalies were prospected, they lie on four different orientations and have been interpreted as a series of land drains that have been laid at differing times over the last century.

There are many dipolar 'iron-spike' anomalies present throughout the dataset that were probably introduced into the field during episodes of manuring and general agricultural activity.

7.2 *Large Field*

The larger field (Figures 6, 7 and 8) revealed fifty four discrete positive anomalies, one large positive area anomaly with negative margin, one broad positive curvi-linear anomaly, nine weakly positive linear anomalies, three strong dipolar linear trends, areas of magnetic disturbance and a plethora of dipolar 'iron-spike' responses.

Fifty four discrete positive anomalies were recorded, similar to those present within the smaller field and they are possibly of archaeological origin although a geological cause cannot be ruled out.

One triangular shaped positive area anomaly with a negative margin is present in the eastern extremity of the data plot, a depression in the field was noted by the surveyors in this exact location. This anomaly has been interpreted as being of archaeological origin, but equally it could be modern. Soil appears to have been excavated and then spoiled around the edge, the negative responses demarcate the position of the excavated up-cast superficial geology which would have a lower magnetic susceptibility reading than the surrounding ploughsoil.

A broad positive curvilinear anomaly has been recorded to the north of one of the north-eastern bomb craters. Due to its broad nature and irregular shape it has been interpreted as being of natural origin. This anomaly could also be related to the concentration of areas of magnetic disturbance located nearby.



Nine weakly positive linear anomalies, similar in character to those present within the smaller field, have been prospected. They have been interpreted as a system of land drainage of agricultural origin.

Three strong dipolar linear anomalies demarcate the location of service pipe runs that head towards Honington Air Base. Three inspection chambers were present on the central service run. A fourth service run is also expected to be present on the northern boundary where an inspection chamber is located, however this service run was not recorded by the gradiometer. Portions of the pipes have either been replaced or laid using two different pipe mediums, the non-ferrous pipe presents as a weakly positive linear trend.

Areas of magnetic disturbance are abundant within the larger field, some of which are relatively large and obscure the data. The largest is present on the western boundary caused by the high perimeter metal fence and a large steel constructed building. A 10m exclusion zone around the periphery was maintained because of the high metal fences of the air base, however many of the areas of magnetic disturbance are still present on the plots extremities. Magnetic disturbance, perhaps unsurprisingly, is present in and around the bomb craters, caused by fragments of exploded bomb and earth movement. A concentration of magnetic disturbance is also present to the north of the central service pipe and towards the air base. Due to the size of these areas it is likely that they have been caused by modern activity, perhaps associated with the construction of the air base. However, an archaeological origin cannot be ruled out.

The most abundant anomaly, as in the smaller field, are the high amounts of isolated dipolar ('iron-spike') responses that are present throughout the dataset.

8.0 DISCUSSION & CONCLUSION

A relatively very low background magnetic susceptibility level of the superficial geology allowed the Bartington DualGrad 601-2 fluxgate gradiometer to perform well over the superficial geology. Data could be tightly clipped to one standard deviation allowing relatively weak responses to be prospected. The site also had low-cropped foliage that had been rolled by the farmer prior to the commencement of the survey allowing the geophysicists to position the sensors nearer to the ground surface.

The positive discrete anomalies and the positive area anomaly may be worthy of further archaeological investigation to ascertain whether they are indeed of archaeological origin or of a naturally occurring nature. Areas of magnetic disturbance to the north of the central service pipe run may also be targeted to establish their origin. Areas of low magnetic susceptibility could also be tested to determine whether the gradiometer had been unsuccessful in detecting surviving archaeological features.



9.0 ACKNOWLEDGEMENTS

Britannia Archaeology Ltd would like to thank Jane Hunting of Richard Pike Associates for funding the project and for her help and support throughout.

We are also grateful for the advice of Rachael Monk of SCCAS/CT.

10.0 PROJECT ARCHIVE & DEPOSITION

A full archive will be prepared for all work undertaken in accordance with guidance from the *Selection, Retention and Dispersion of Archaeological Collections*, Archaeological Society for Museum Archaeologists, 1993. Arrangements will be made for the archive to be deposited with the relevant museum/HER Office.



Bibliography

Ayala. G. *et al.* 2004. *Geoarchaeology; Using Earth Sciences to Understand the Archaeological Record*. English Heritage.

Clark. A. J. 1996. *Seeing Beneath the Soil, Prospecting Methods in Archaeology*. BT Batsford Ltd, London.

David. A. 1995. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines*. No.1. English Heritage.

David. A. *et al.* 2008. *Geophysical Survey In Archaeological Field Evaluation*, Second Edition. English Heritage.

Gaffney. C, Gater. J. and Ovenden. S. 2002. *The Use of Geophysical Techniques in Archaeological Evaluations*. IFA Technical Paper No. 6.

Gaffney. C. and Gater. J. 2003. *Revealing the Buried Past, Geophysics for Archaeologists*. Tempus Publishing Ltd.

Gurney, D. 2003. *Standards for Archaeology in the East of England*, East Anglian Archaeology Occasional Paper 14.

Institute for Archaeologists. 2011. *Standard and Guidance for Archaeological Geophysical Survey*.

Linford. N. 2006. Notes from an English Heritage Seminar.

Schmidt. A. 2001. *Geophysical Data in Archaeology: A Guide to Good Practice*. Archaeology Data Service. Oxbow Books.

Whitten. D.G.A. 1978. *The Penguin Dictionary of Geology*. Penguin Books Ltd. London.

Witten. A.J. 2006. *Handbook of Geophysics and Archaeology*. Equinox Publishing Ltd. London.

Websites

The British Geological Survey, 2012, (Natural Environment Research Council) – Geology of Britain Viewer - www.bgs.ac.uk/opengeoscience/home.html

English Heritage PastScape www.pastscape.org.uk

Heritage Gateway www.heritagegateway.org.uk

Archaeological Data Service (ADS) www.ads.ahds.ac.uk



English Heritage National List for England

www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england

DEFRA Magic <http://magic.defra.gov.uk/website/magic>

Royal Air Force Honington, 2012

<http://www.raf.mod.uk/rafhonington/aboutus/history.cfm>



Appendix 1 – Technical Details

Magnetometer Survey

The magnetometer differs from the 'active' magnetic susceptibility meter by being a 'passive' instrument. Rather than injecting a signal into the ground it detects slight variations in the Earth's magnetic field caused by cultural and natural disturbance (Clark).

Thermoremanent magnetism is produced when a material containing iron oxides is strongly heated. Clay for example has a high iron oxide content that in a natural state is weakly magnetic, when heated these weakly magnetic compounds become highly magnetic oxides that a magnetometer can detect.

The demagnetisation of iron oxides occurs above a temperature known as the Curie point; for example haematite has a Curie point of 675 Celsius and magnetite 565C. At the time of cooling the iron oxides become permanently re-magnetised with their magnetic properties re-aligned in the direction of the Earth's magnetic field (Gaffney and Gater). The direction of the Earth's magnetic field shifts over time and these subtle alignment differences can be recorded. Kilns, hearths, baked clay and ovens can reach Curie point temperatures, and are the strongest responses apart from large iron objects that can be detected. Other cultural anomalies that can be prospected include occupation areas, pits, ditches, furnaces, sunken feature buildings, ridge and furrow field systems and ritual activity (David, 2011). Commonly recorded anomalies include modern ferrous service pipes, field drainage pipes, removed field boundaries, perimeter fences and field boundaries.

Fluxgate Gradiometers

Fluxgate gradiometers are sensitive instruments that utilise two sensors placed in a vertical plane, spaced 1 metre apart. The sensor above reads the Earth's magnetic (background) response while the sensor below records the local magnetic field. Both sensors are carefully adjusted to read zero before survey commences at a 'zeroing' point, selected for its relatively 'quiet' magnetic background reading. When differences in the magnetic field strength occur between the two sensors a positive or negative reading is logged. Positive anomalies have a positive magnetic value and conversely negative anomalies have a negative magnetic value relative to the site's magnetic background. Examples of positive magnetic anomalies include hearths, kilns, baked clay, areas of burning, ferrous material, ditches, sunken feature buildings, furrows, ferrous service pipes, perimeter fences and field boundaries. Negative magnetic anomalies include earthwork embankments, plastic water pipes and geological features.

The instruments are usually held approximately 0.30m to 0.50m above the ground surface and can detect to a depth of between 1-2metres. Best practice dictates that the optimal direction of traverse in Britain is east to west.



APPENDIX 2 – OASIS SHEET

OASIS ID: britanni1-137601

Project details

Project name Solar Farm, Thetford Road, Fakenham Magna, Suffolk
Short description of the project Detailed fluxgate gradiometer survey on two fields at Thetford Road, Fakenham Magna, Suffolk was successful in recording sixty discrete positive anomalies and one positive area anomaly of possible archaeological origin. Twenty seven weak positive linear anomalies demarcating the location of probable agricultural land drains, one broad positive anomaly of probable geological origin, three dipolar linear service pipe runs, large areas of magnetic disturbance a concentration of which may originate from the construction of the air base, and many dipolar 'iron-spike' anomalies were also prospected.
Project dates Start: 15-10-2012 End: 26-10-2012
Previous/future work No / Yes
Any associated project reference codes P1016 - Contracting Unit No.
Type of project Field evaluation
Site status Area of Archaeological Importance (AAI)
Current Land use Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type None
Significant Finds None
Methods & techniques "Geophysical Survey"
Development type Solar Farm
Prompt Direction from Local Planning Authority - PPS
Position in the planning process Pre-application
Solid geology CHALK (INCLUDING RED CHALK)
Drift geology GLACIAL SAND AND GRAVEL
Techniques Magnetometry

Project location

Country England
Site location SUFFOLK ST EDMUNDSBURY FAKENHAM MAGNA Solar Farm, Thetford Road, Fakenham Magna
Study area 22.00 Hectares
Site coordinates TL 90 74 52 0 52 19 50 N 000 47 19 E Point
Height OD / Depth Min: 42.00m Max: 45.00m

Project creators

Name of Organisation Britannia Archaeology Ltd
Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator Timothy Schofield
Project director/manager Timothy Schofield
Project supervisor Timothy Schofield
Type of sponsor/funding body Landowner

Project archives

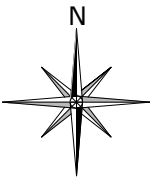
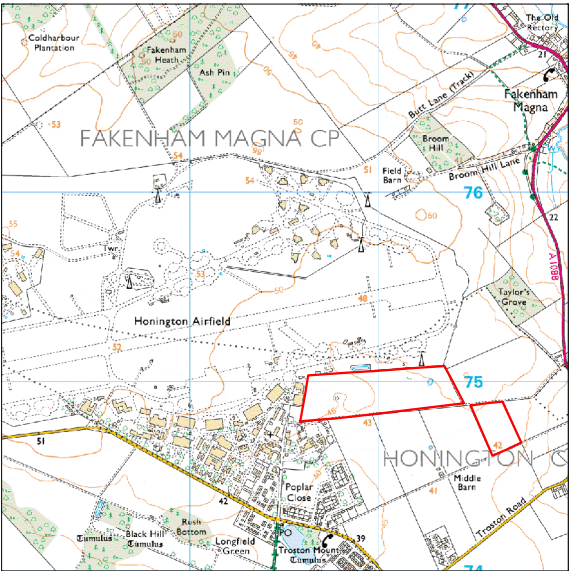
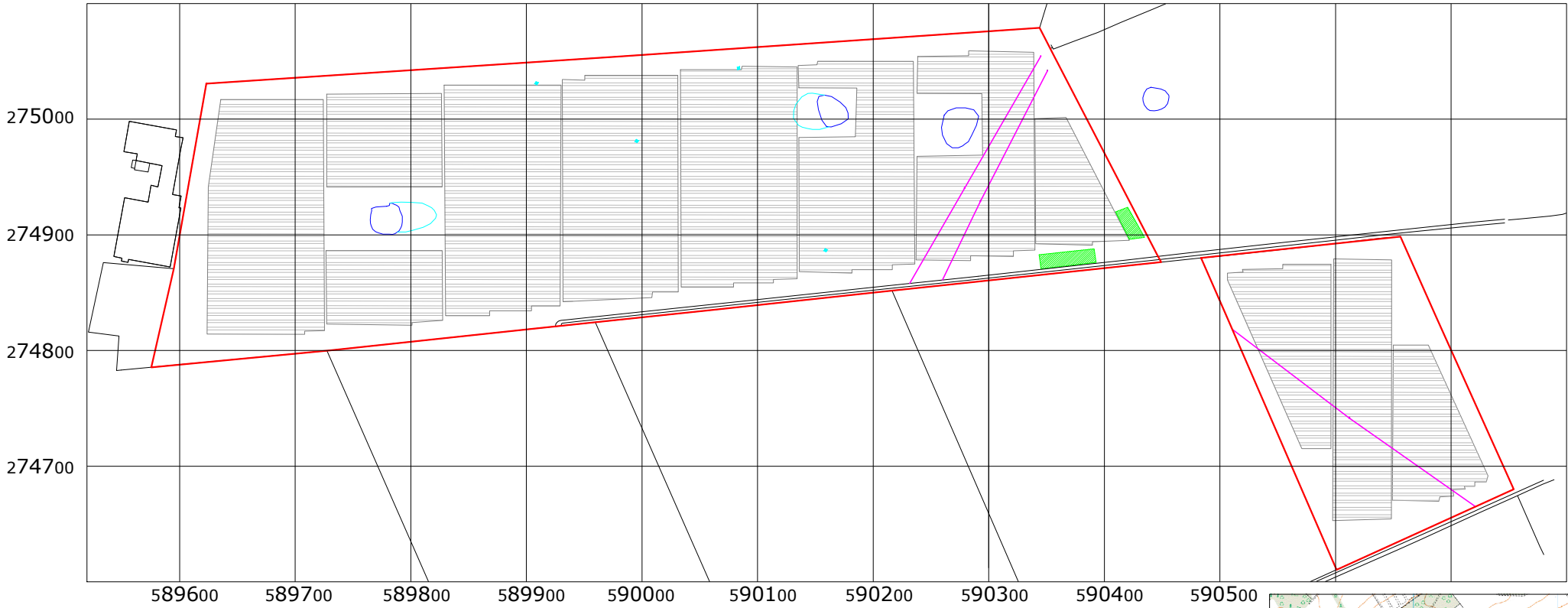
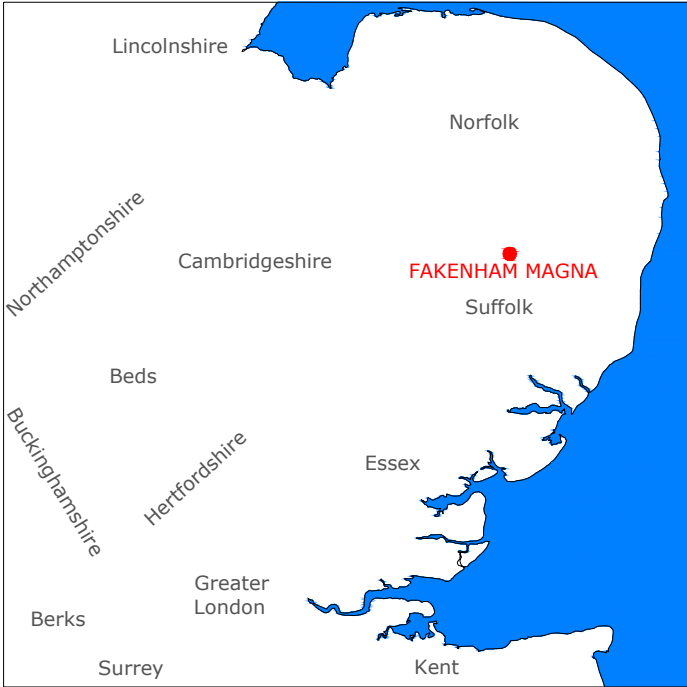
Physical Archive Exists? No
Digital Archive recipient Suffolk HER
Digital Contents "Survey"
Digital Media available "Database", "GIS", "Geophysics", "Images raster / digital photography", "Images vector", "Survey", "Text"
Paper Archive recipient Suffolk HER
Paper Contents "Survey"
Paper Media available "Map", "Photograph", "Plan", "Report", "Survey ", "Unpublished Text"








Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
Title SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK;
DETAILED MAGNETOMETER SURVEY




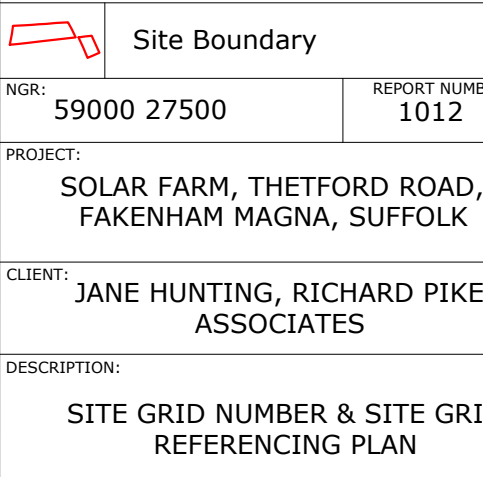
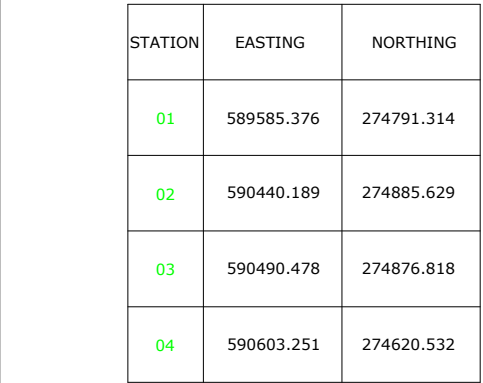
Author(s)/Editor(s)	Schofield, T.P.
Other bibliographic details	R1012
Date	2012
Issuer or publisher	Britannia Archaeology Ltd
Place of issue or publication	Stowmarket, Suffolk
Description	Bound copy of report including figures, photographs and text.
URL	www.britannia-archaeology.com
Entered by	Tim Schofield (tim@britannia-archaeology.com)
Entered on	14 November 2012



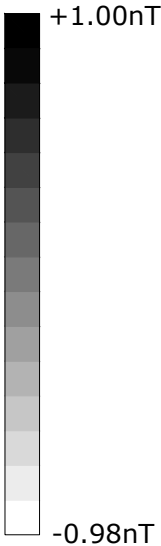
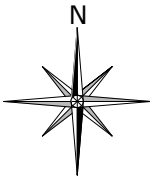
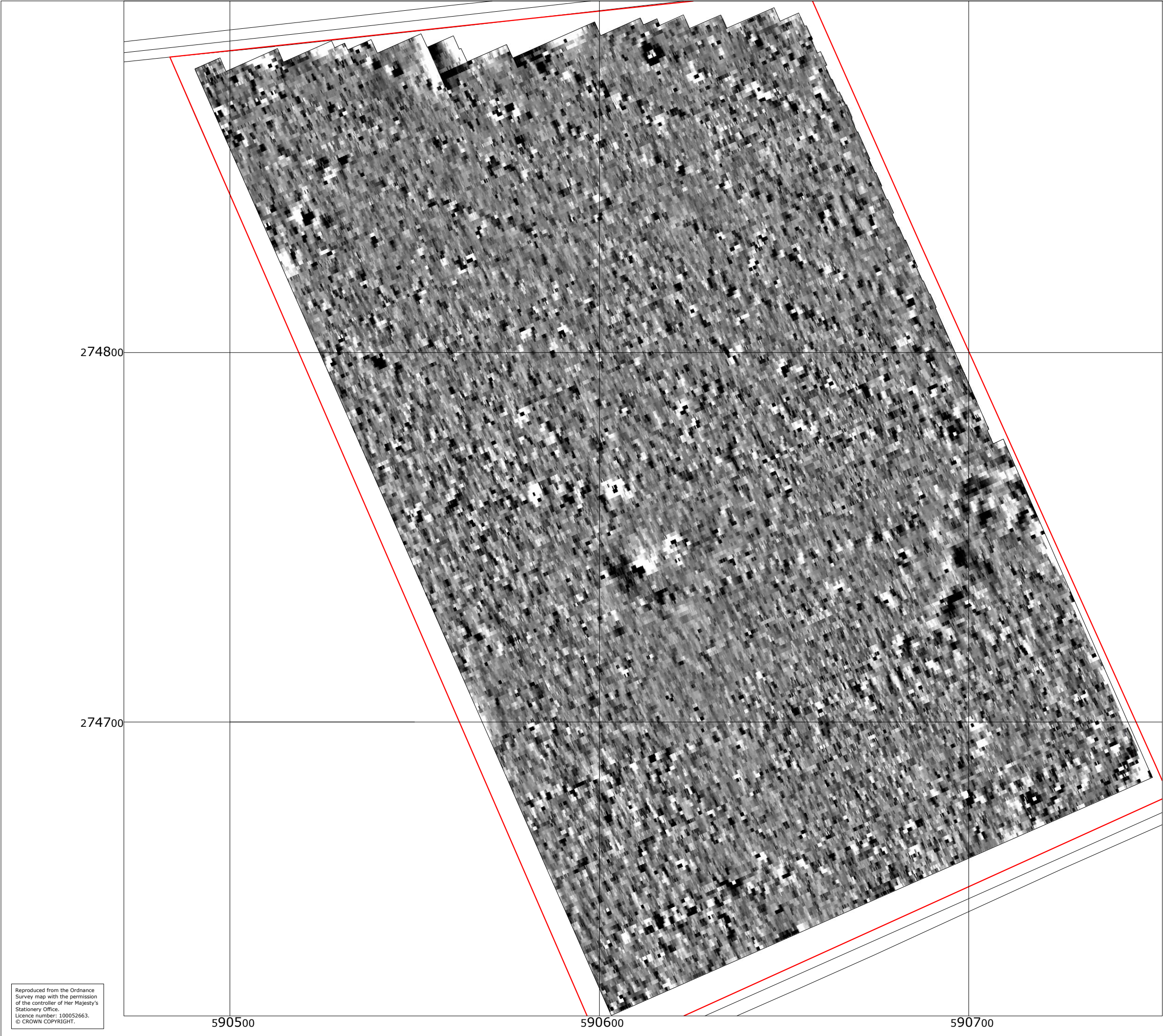
	Location of Inspection Chamber.
	Location of Overhead Cable and Pole.
	Straw Bales
	Solar Panels
	Bomb Crater, Surveyable
	Bomb Crater, Unsurveyable
	Site Boundary

NGR:	59000 27500	REPORT NUMBER:	1012
PROJECT:	SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK		
CLIENT:	JANE HUNTING, RICHARD PIKE ASSOCIATES		
DESCRIPTION:	SITE LOCATION & DEVELOPMENT PLAN		

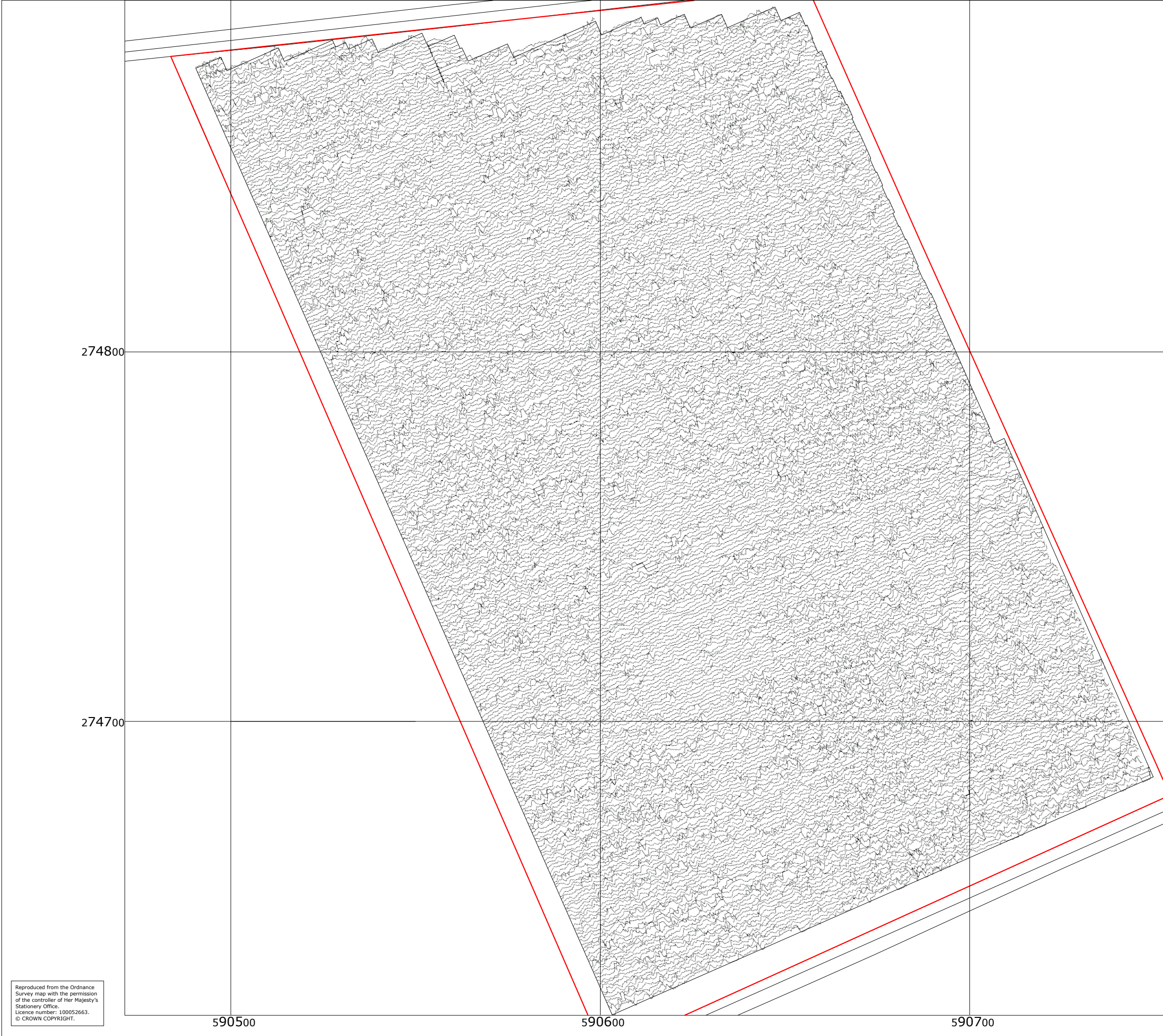
BRITANNIA ARCHAEOLOGY LTD		
		
4 THE MILL, CLOVERS COURT,SUFFOLK IP14 1RB		
T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com		
SCALE:	0 200m	
1:5000		
PLOT:	APPROVED:	VERSION:
A3	MCA	01
DATE:	AUTHOR:	FIGURE:
NOV 2012	TPS	01



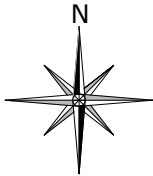
DATE: NOV 2012	AUTHOR: TPS	FIGURE: 02
-------------------	----------------	---------------






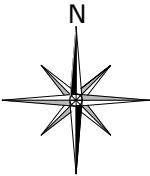
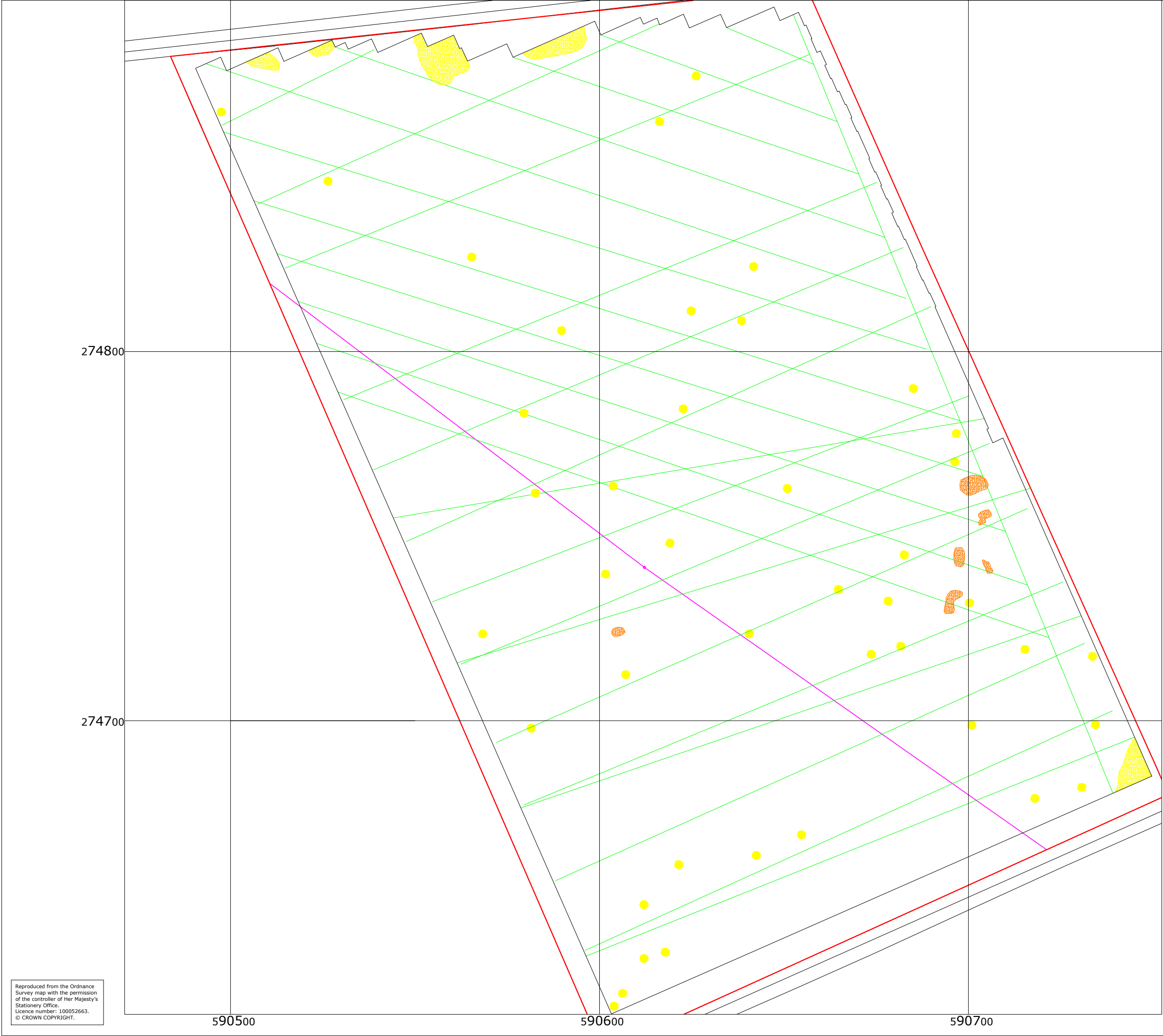
<div></div>		Site Boundary	
NGR: 59000 27500		REPORT NUMBER: 1012	
PROJECT: SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK			
CLIENT: JANE HUNTING, RICHARD PIKE ASSOCIATES			
DESCRIPTION: RAW CORRECTED MAGNETOMETER GREYSCALE PLOT SMALL FIELD			
BRITANNIA ARCHAEOLOGY LTD			
<div></div>			
4 THE MILL, CLOVERS COURT, SUFFOLK IP14 1RB			
T: 01449 763034			
E: info@britannia-archaeology.com			
W: www.britannia-archaeology.com			
SCALE: 0 50m			
1:1000 <div></div>			
PLOT: A3		APPROVED: MCA	
DATE: NOV 2012		VERSION: 01	
		AUTHOR: TPS	
		FIGURE: 03	



Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationary Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



20 nT/cm		Scale Interval	
	Site Boundary		
NGR: 59000 27500		REPORT NUMBER: 1012	
PROJECT: SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK			
CLIENT: JANE HUNTING, RICHARD PIKE ASSOCIATES			
DESCRIPTION: RAW CORRECTED MAGNETOMETER XY TRACE PLOT SMALL FIELD			
BRITANNIA ARCHAEOLOGY LTD			
			
4 THE MILL, CLOVERS COURT, SUFFOLK IP14 1RB			
T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com			
SCALE: 1:1000			
PLOT: A3	APPROVED: MCA	VERSION: 01	
DATE: NOV 2012	AUTHOR: TPS	FIGURE: 04	



	Positive Discrete Anomaly, Archaeology?
	Area of Magnetic Disturbance, Ferrous Material
	Dipolar Anomaly, Ferrous Material
	Narrow, Weak Positive, Linear Anomaly, Agricultural
	Location of Overhead Cable and Pole.
	Site Boundary

NGR:	59000 27500	REPORT NUMBER:	1012
------	-------------	----------------	------

PROJECT:	SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK
----------	--

CLIENT:	JANE HUNTING, RICHARD PIKE ASSOCIATES
---------	---------------------------------------

DESCRIPTION:	INTERPRETATION PLOT OF MAGNETOMETER DATA SMALL FIELD
--------------	--

BRITANNIA ARCHAEOLOGY LTD

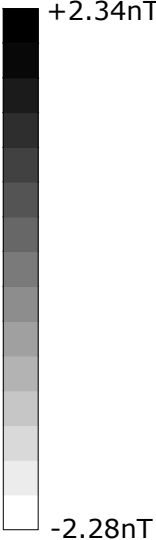
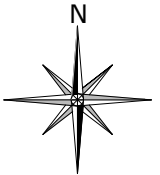
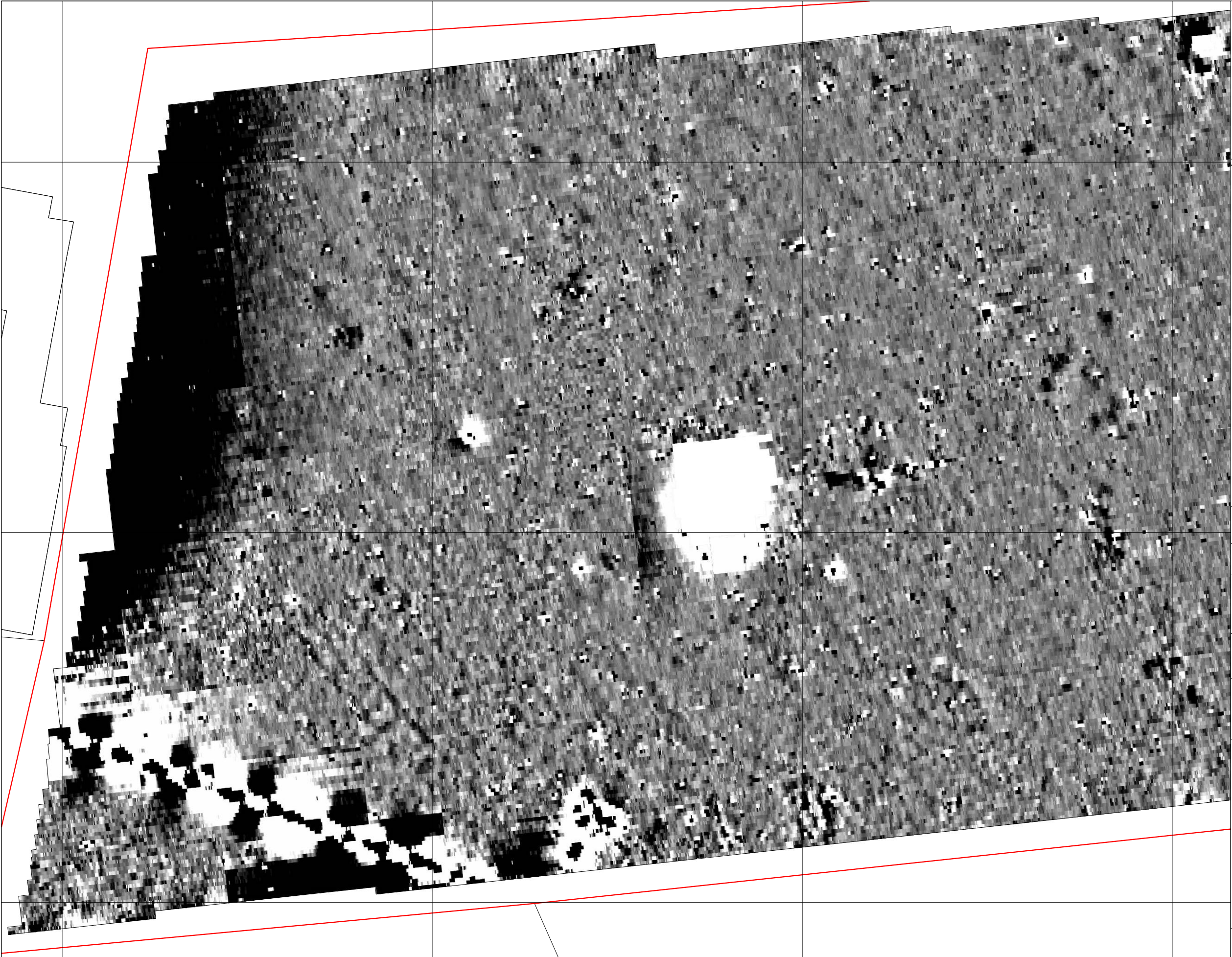


4 THE MILL, CLOVERS COURT, SUFFOLK
IP14 1RB

T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com

SCALE:	0	50m
1:1000		

PLOT:	A3	APPROVED:	MCA	VERSION:	01
DATE:	NOV 2012	AUTHOR:	TPS	FIGURE:	05



Site Boundary

NGR:	59000 27500	REPORT NUMBER:	1012
------	-------------	----------------	------

PROJECT:	SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK
----------	---

CLIENT:	JANE HUNTING, RICHARD PIKE ASSOCIATES
---------	--

DESCRIPTION:	RAW CORRECTED MAGNETOMETER GREYSCALE PLOT LARGE FIELD
--------------	--

BRITANNIA ARCHAEOLOGY LTD



4 THE MILL, CLOVERS COURT,SUFFOLK
IP14 1RB

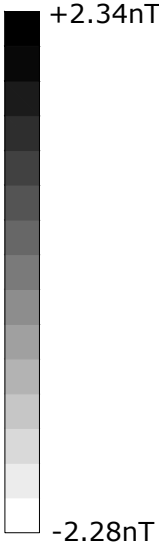
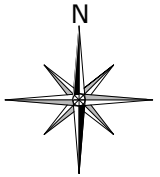
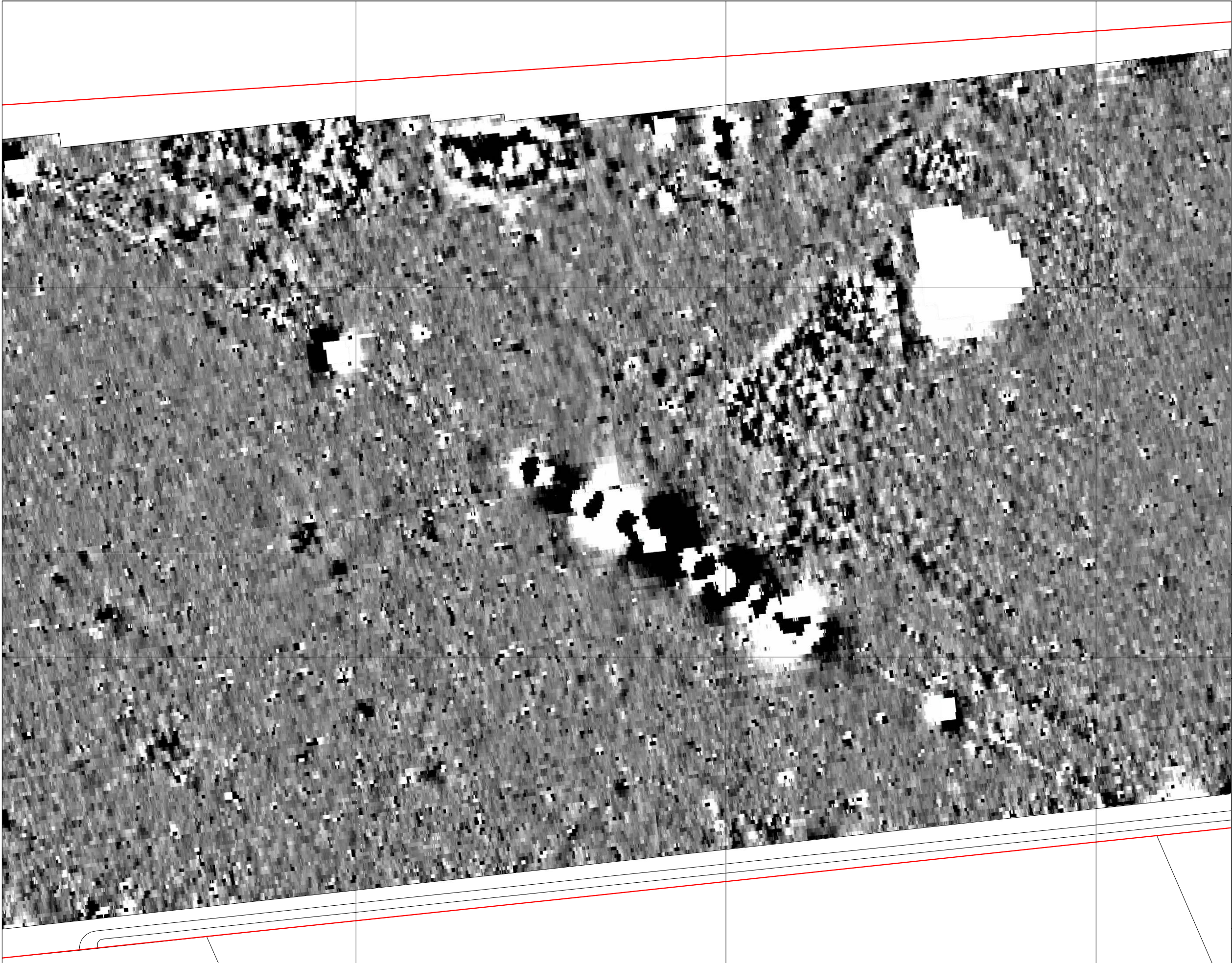
T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com



PLOT:	A3	APPROVED:	MCA	VERSION:	01
-------	----	-----------	-----	----------	----

DATE:	NOV 2012	AUTHOR:	TPS	FIGURE:	06a
-------	----------	---------	-----	---------	-----

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationery Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



Site Boundary

NGR:

59000 27500

REPORT NUMBER:

1012

PROJECT:

SOLAR FARM, THETFORD ROAD,
FAKENHAM MAGNA, SUFFOLK

CLIENT:

JANE HUNTING, RICHARD PIKE
ASSOCIATES

DESCRIPTION:

RAW CORRECTED MAGNETOMETER
GREYSCALE PLOT LARGE FIELD

BRITANNIA ARCHAEOLOGY LTD



4 THE MILL, CLOVERS COURT, SUFFOLK
IP14 1RB

T: 01449 763034

E: info@britannia-archaeology.com

W: www.britannia-archaeology.com

SCALE:

1:1000



PLOT:

A3

APPROVED:

MCA

VERSION:

01

DATE:

NOV 2012

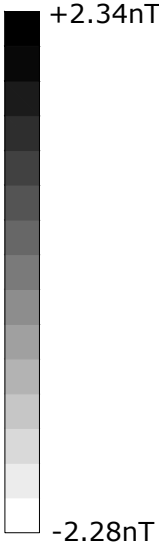
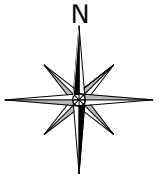
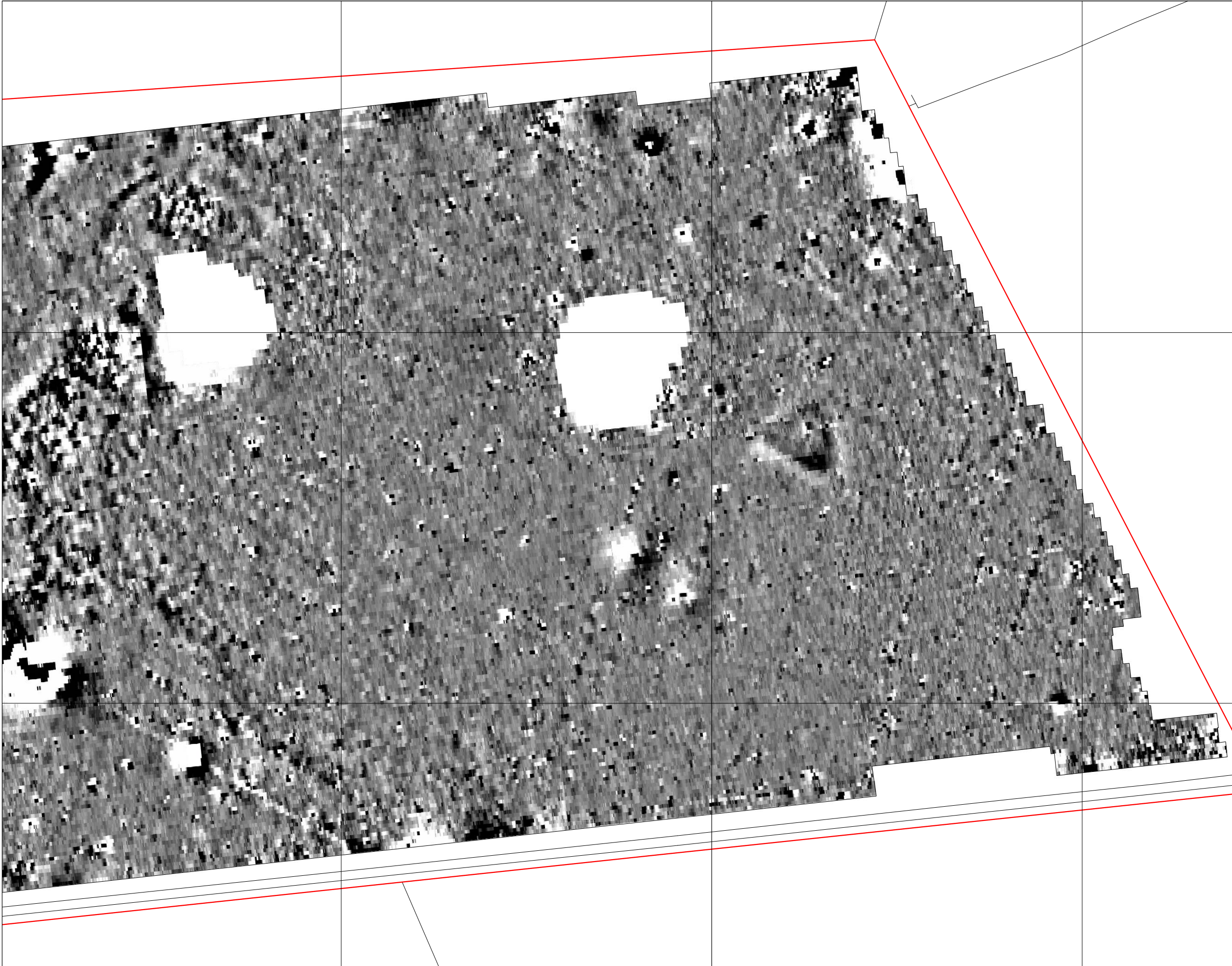
AUTHOR:

TPS

FIGURE:

06b

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationary Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



Site Boundary

NGR:	59000 27500	REPORT NUMBER:	1012
------	-------------	----------------	------

PROJECT:	SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK
----------	---

CLIENT:	JANE HUNTING, RICHARD PIKE ASSOCIATES
---------	--

DESCRIPTION:	RAW CORRECTED MAGNETOMETER GREYSCALE PLOT LARGE FIELD
--------------	--

BRITANNIA ARCHAEOLOGY LTD



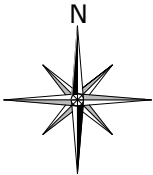
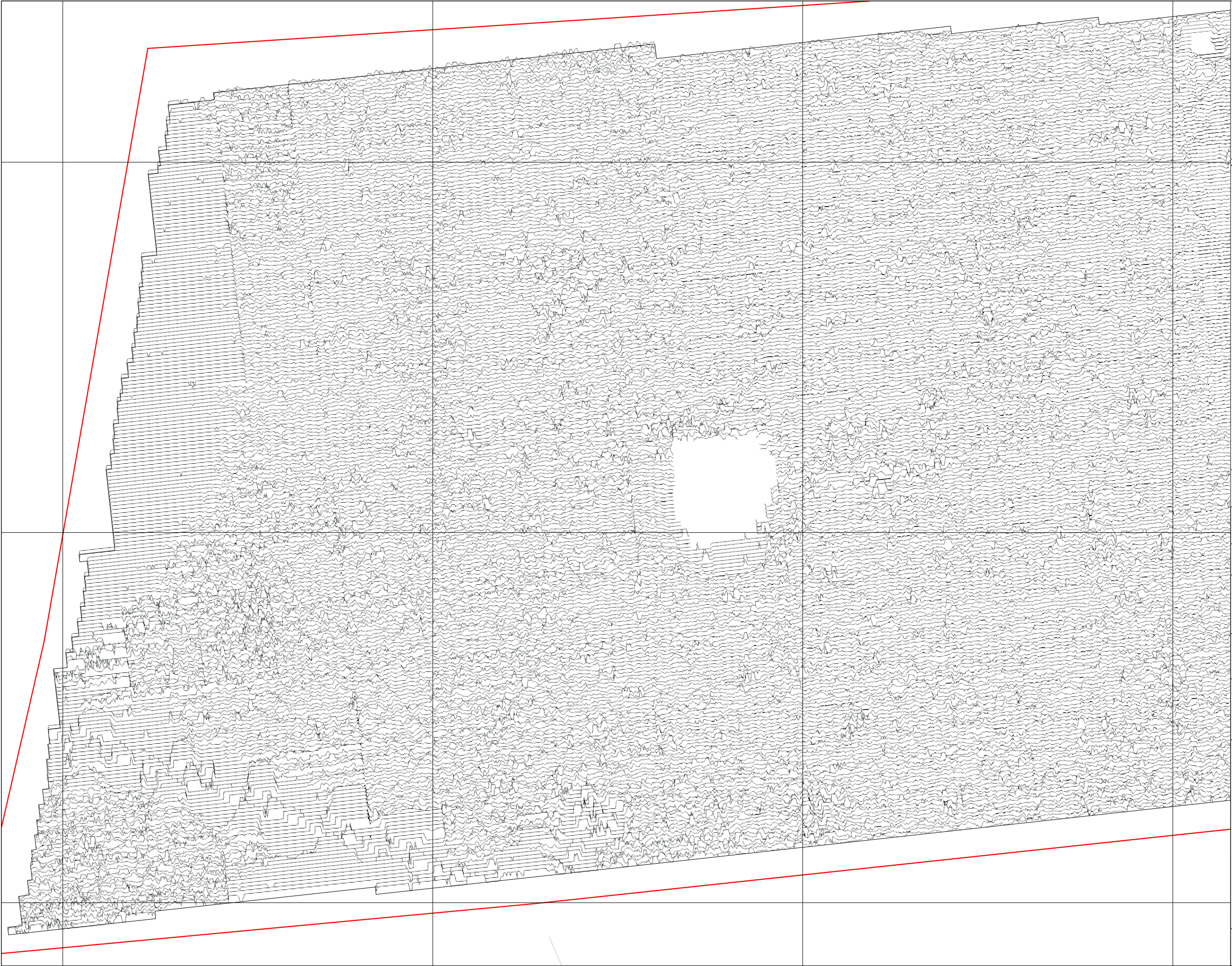
4 THE MILL, CLOVERS COURT,SUFFOLK
IP14 1RB

T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com

SCALE:	0	50m
1:1000		

PLOT:	APPROVED:	VERSION:
A3	MCA	01
DATE:	AUTHOR:	FIGURE:
NOV 2012	TPS	06c

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationary Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



275000

20 nT/cm

Scale Interval



Site Boundary

NGR:

59000 27500

REPORT NUMBER:

1012

PROJECT:

SOLAR FARM, THETFORD ROAD,
FAKENHAM MAGNA, SUFFOLK

CLIENT:

JANE HUNTING, RICHARD PIKE
ASSOCIATES

DESCRIPTION:

RAW CORRECTED MAGNETOMETER
XY TRACE PLOT LARGE FIELD

BRITANNIA ARCHAEOLOGY LTD



4 THE MILL, CLOVERS COURT, SUFFOLK
IP14 1RB

T: 01449 763034

E: info@britannia-archaeology.com

W: www.britannia-archaeology.com

SCALE:

1:1000



PLOT:

A3

APPROVED:

MCA

VERSION:

01

DATE:

NOV 2012

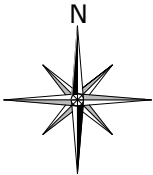
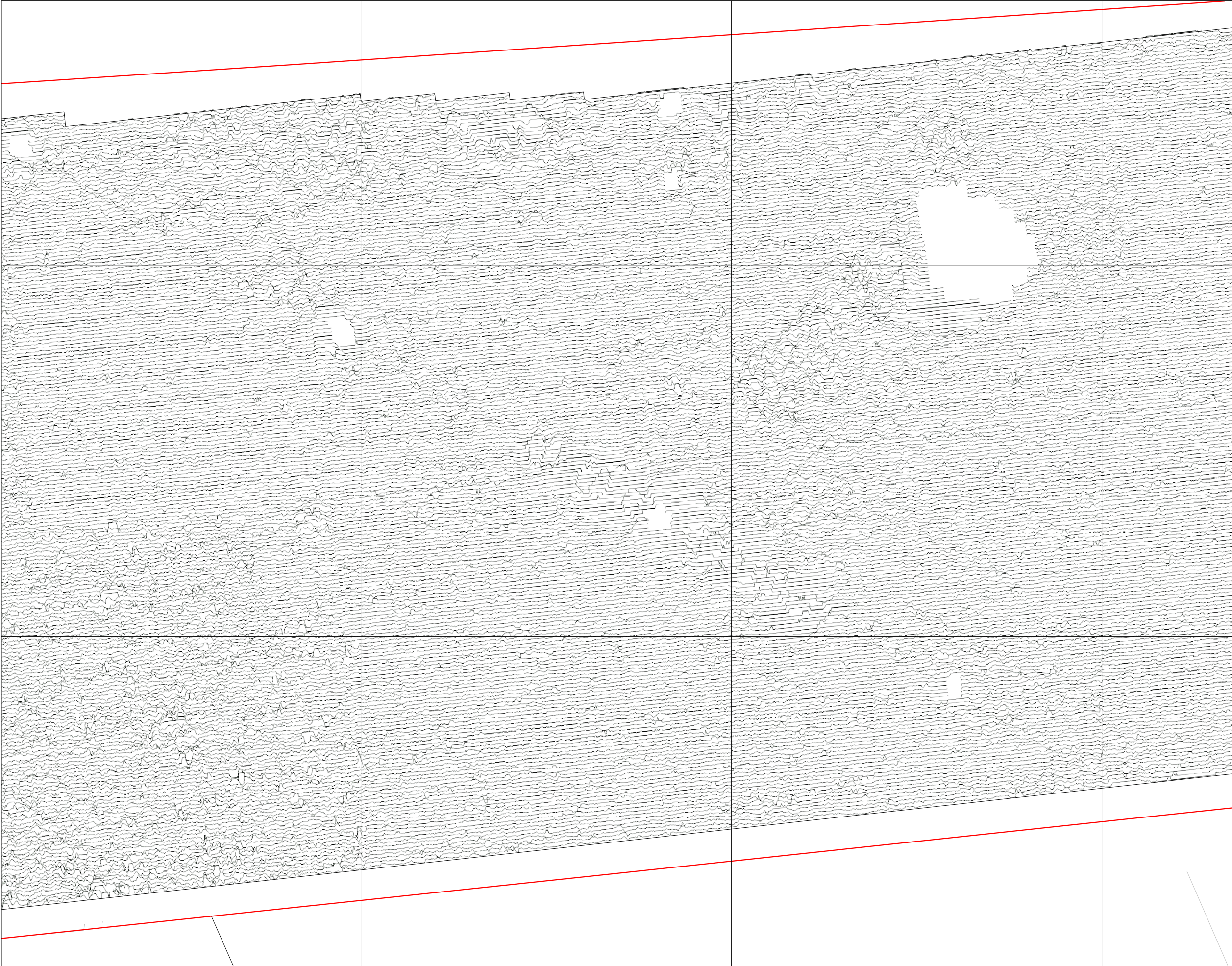
AUTHOR:

TPS

FIGURE:

07a

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationery Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



27500

20 nT/cm

Scale Interval



Site Boundary

NGR:

59000 27500

REPORT NUMBER:

1012

PROJECT:

SOLAR FARM, THETFORD ROAD,
FAKENHAM MAGNA, SUFFOLK

CLIENT:

JANE HUNTING, RICHARD PIKE
ASSOCIATES

DESCRIPTION:

RAW CORRECTED MAGNETOMETER
XY TRACE PLOT LARGE FIELD

BRITANNIA ARCHAEOLOGY LTD



4 THE MILL, CLOVERS COURT, SUFFOLK
IP14 1RB

T: 01449 763034

E: info@britannia-archaeology.com

W: www.britannia-archaeology.com

SCALE:

1:1000



PLOT:

A3

APPROVED:

MCA

VERSION:

01

DATE:

NOV 2012

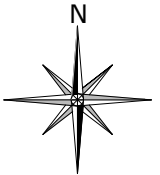
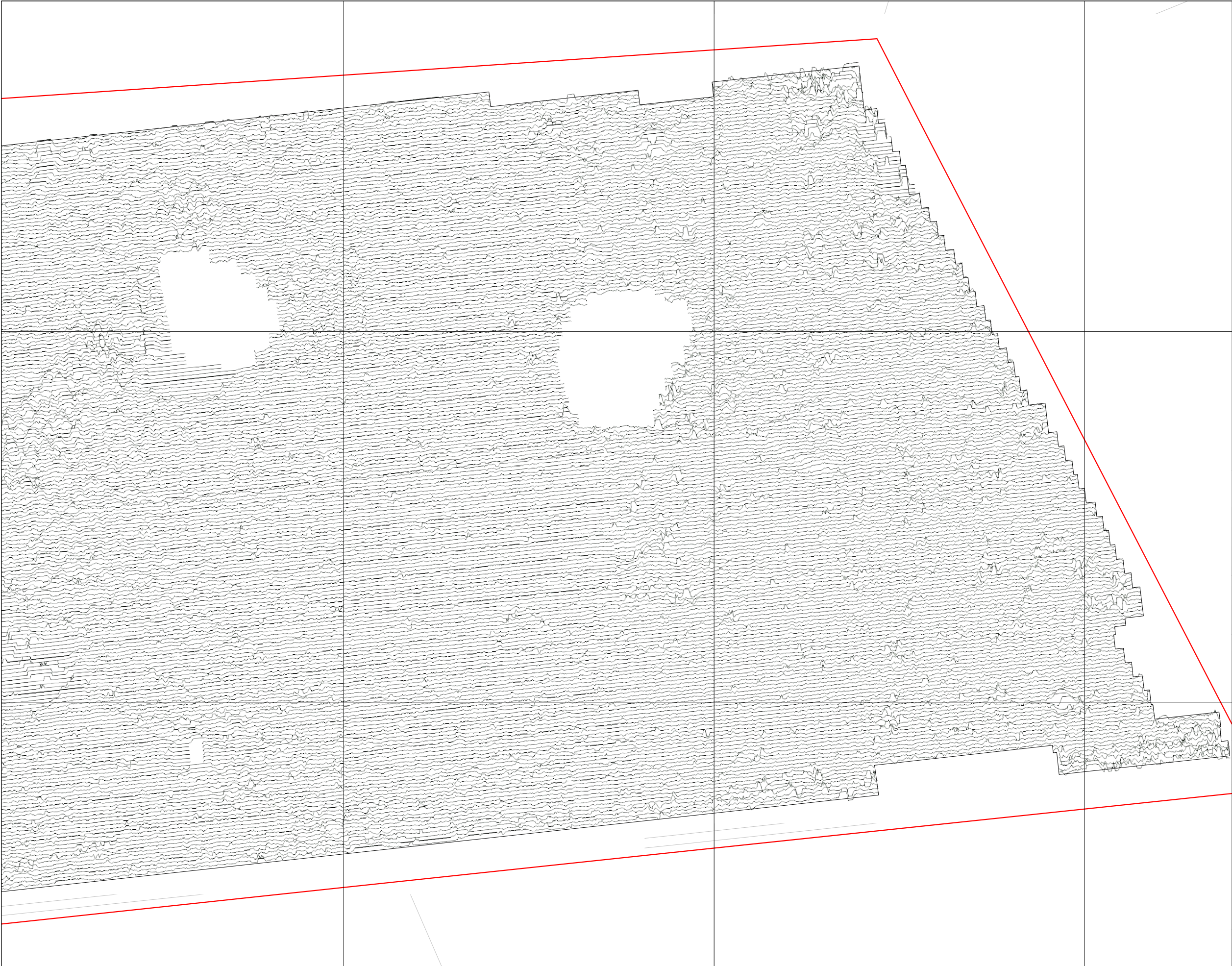
AUTHOR:

TPS

FIGURE:

07b

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationery Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



275000

20 nT/cm

Scale Interval



Site Boundary

NGR:

59000 27500

REPORT NUMBER:

1012

PROJECT:

SOLAR FARM, THETFORD ROAD,
FAKENHAM MAGNA, SUFFOLK

CLIENT:

JANE HUNTING, RICHARD PIKE
ASSOCIATES

DESCRIPTION:

RAW CORRECTED MAGNETOMETER
XY TRACE PLOT LARGE FIELD

BRITANNIA ARCHAEOLOGY LTD



4 THE MILL, CLOVERS COURT, SUFFOLK
IP14 1RB

T: 01449 763034

E: info@britannia-archaeology.com

W: www.britannia-archaeology.com

SCALE:

1:1000



PLOT:

A3

APPROVED:

MCA

VERSION:

01

DATE:

NOV 2012

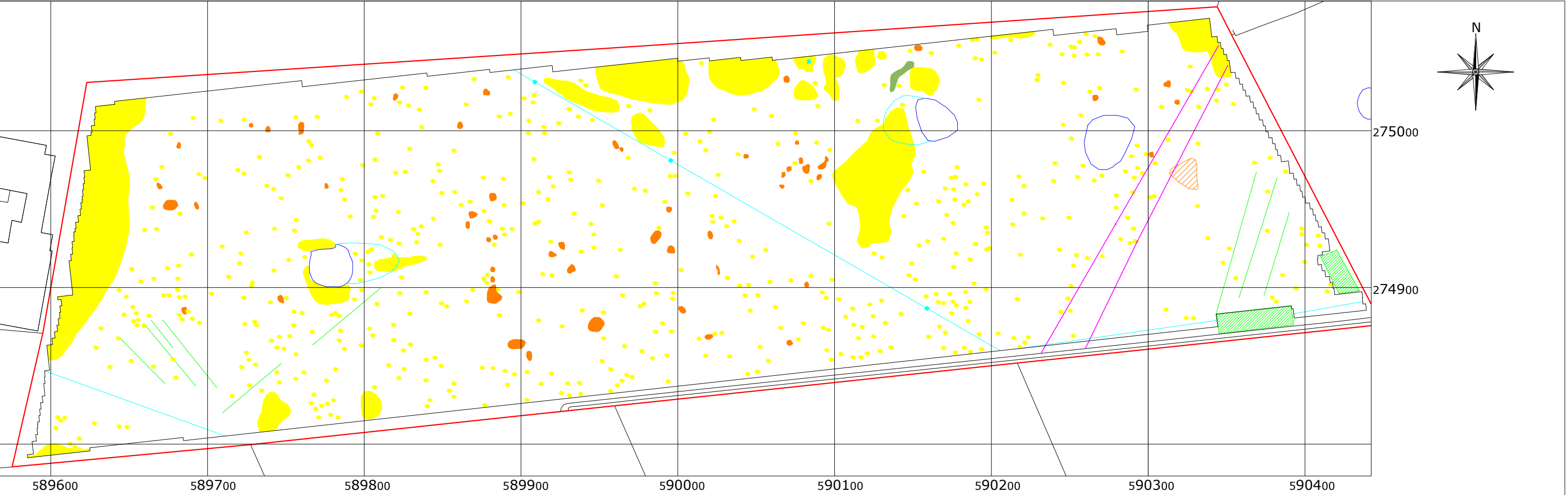
AUTHOR:

TPS


FIGURE:

07c

Reproduced from the Ordnance
Survey map with the permission
of the controller of Her Majesty's
Stationery Office.
Licence number: 100052663.
© CROWN COPYRIGHT.



	Positive Discrete Anomaly, Archaeology?
	Positive Area Anomaly, with Negative Margin, Archaeology?
	Area of Magnetic Disturbance, Ferrous Material
	Dipolar Anomaly, Ferrous Material
	Narrow, Weak Positive, Linear Anomaly, Agricultural
	Broad, Curvilinear Positive Anomaly, Geology?
	Strong, Dipolar Linear, Service Pipe & Inspection Chambers
	Straw Bales
	Bomb Crater, Surveyable
	Bomb Crater, Unsurveyable

	Location of Overhead Cable and Pole.	
	Site Boundary	
NGR: 59000 27500		REPORT NUMBER: 1012
PROJECT: SOLAR FARM, THETFORD ROAD, FAKENHAM MAGNA, SUFFOLK		
CLIENT: JANE HUNTING, RICHARD PIKE ASSOCIATES		
DESCRIPTION: INTERPRETATION PLOT OF MAGNETOMETER DATA LARGE FIELD		
BRITANNIA ARCHAEOLOGY LTD		
		
4 THE MILL, CLOVERS COURT, SUFFOLK IP14 1RB		
T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com		
SCALE: 1:2500	0  100m	
PLOT: A3	APPROVED: MCA	VERSION: 01
DATE: NOV 2012	AUTHOR: TPS	FIGURE: 08