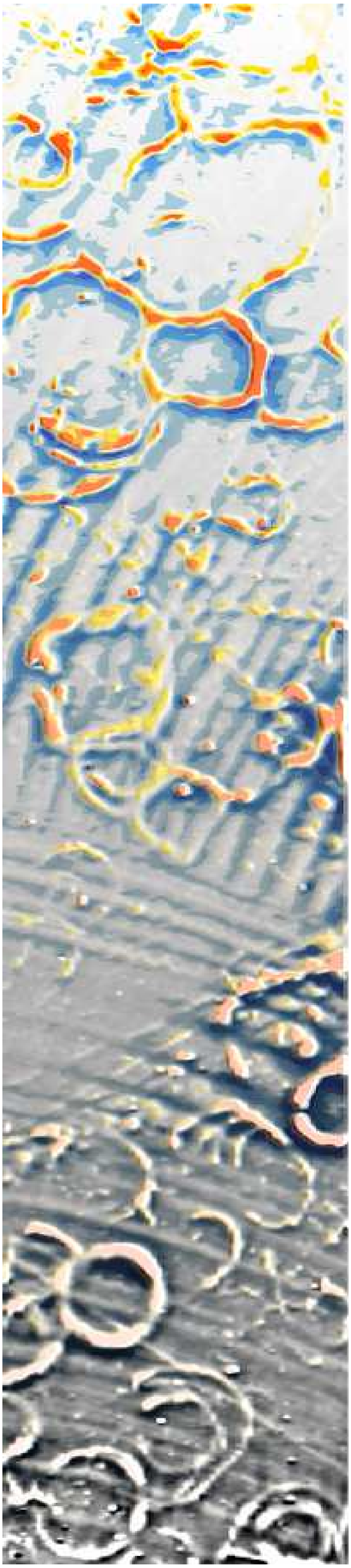

Collacott Solar Park, Newton Tracey, Devon

Geophysical Survey Report

Produced for CgMs Consulting

Project code CND141
OASIS ID archaeop1-197543

8th December 2014

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Non-Technical Summary

A magnetic survey was commissioned by CgMs Consulting to prospect land at Collacott Solar Park, Newton Tracey, Devon for buried structures of archaeological interest.

The magnetic survey of the site has successfully been able to detect many anomalies which are likely to relate to past agricultural activity and may also be of archaeological interest. A series of linear enhanced magnetic field anomalies may relate to a post-medieval field system extending across the site. Other curvilinear anomalies have also been identified which may be of archaeological interest.

Digital Data

Item	Sent to	Sent date
CAD – Vector Elements	Richard Conolly	26th November 2014
	Richard Conolly	11th December 2014

Audit

Version	Author	Checked	Date
Interim	R Fry		24th November 2014
Draft Final	R Fry	MJ Roseveare	11th December 2014
Final	R Fry		17th December 2014
Revision			
OASIS Form completed	R Fry		8th December 2014

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1 Introduction

Land at Collacott Solar Park, Newton Tracey, Devon was surveyed to prospect for buried structures of archaeological interest. 10.1 hectares were surveyed across four pasture fields.

1.1 Location

Country	England
County	Devon
Nearest Settlement	Barnstaple
Central Co-ordinates	250800, 130200

2 Context

2.1 Archaeology

A Heritage Assessment was conducted by CgMs Consulting (2014) prior to the geophysical survey. This identified that no designated or undesignated heritage assets are recorded within the survey area or adjacent to it. However, the assessment concluded that:

"The general area in which the Site is located has potential to contain previously unrecorded archaeological assets, in particular of Early Medieval and earlier date; the current settlement pattern broadly matches that of the medieval period and that there is correspondingly little potential for medieval and later settlement to be present within the Site. ... Should archaeological assets be present they are likely to be of no more than local importance and their significance would reside entirely in their archaeological interest." (CgMs 2014, 13)

2.2 Environment

Soil (UKSO)	Freely draining slightly acid loamy soils in NE area; Slowly permeable seasonally wet acid loamy and clayey soils in SW area
Superficial 1: 50000 BGS	None Recorded
Bedrock 1:50000 BGS	Crackington Formation - Mudstone And Siltstone - most of area Crackington Formation - Sandstone - small area in NW of survey (CKF)
Topography	Slopes down from the north extent of site towards stream.
Hydrology	Presumed natural – run off to stream which flows to Fremington Pill
Current Land Use	Agricultural – pasture
Historic Land Use	Agricultural – mixed
Vegetation Cover	Grass
Sources of Interference	None

Soils derived from the Devonian meta-sedimentary rocks of the Crackington Formation are variably magnetic, less so than the Saltash and Torpoint Formations but still capable of generating anomalies of similar or greater amplitude to those from archaeological sources. Some modification of the iron chemistry seems to occur under different hydrological conditions with background magnetic field variations more than doubling in strength in (seasonally) wet ground.

3 Methodology

3.1 Survey

3.1.1 Technical equipment

Measured variable	Magnetic flux density / nT
Instrument	Array of Geometrics G858 Magmapper caesium magnetometers
Configuration	Non-gradiometric transverse array (4 sensors, ATV towed)
Sensitivity	0.03 nT @ 10 Hz (manufacturer's specification)
QA Procedure	Continuous observation
Spatial resolution	1.0m between lines, 0.3m mean along line interval

3.1.2 Monitoring & quality assessment

The system continuously displays all incoming data as well as line speed and spatial data resolution per acquisition channel during survey. Rest mode system noise is therefore easy to inspect simply by pausing during survey, and the continuous display makes monitoring for quality intrinsic to the process of undertaking a survey. Rest mode test results (static test) are available from the system.

3.2 Data processing

3.2.1 Procedure

All data processing is minimised and limited to what is essential for the class of data being collected, e.g. reduction of orientation effects, suppression of single point defects (drop-outs or spikes) etc. The processing stream for this data is as follows:

Process	**Software**	**Parameters**
Measurement & GNSS receiver data alignment	Proprietary	
Temporal reduction, regional field suppression	Proprietary	5s high pass, 0.3s low pass
Gridding	Surfer	Kriging, 0.25m x 0.25m
Smoothing	Surfer	Gaussian lowpass 3x3 data
Imaging and presentation	Manifold GIS	

The initial processing uses proprietary software developed in conjunction with the multisensor acquisition system. Gridded data is ported as data surfaces (not images) into Manifold GIS for final imaging and detailed analysis. Specialist analysis is undertaken using proprietary software.

General information on processes commonly applied to data can be found in standard text books and also in the 2008 English Heritage Guidelines "Geophysical Survey in Archaeological Field Evaluation" at http://www.helm.org.uk/upload/pdf/Geophysical_LoRes.pdf.

ArchaeoPhysica uses more advanced processing for magnetic data using potential field techniques standard to near-surface geophysics. Details of these can be found in Blakely, 1996, "Potential Theory in Gravity and Magnetic Applications", Cambridge University Press.

All archived data includes process metadata.

3.3 Interpretation resources

Numerous sources are used in the interpretive process which takes into account shallow geological conditions, past and present land use, drainage, weather before and during survey, topography and any previous knowledge about the site and the surrounding area. Old Ordnance Survey mapping is consulted and also older sources if available. Geological information is sourced only from British Geological Survey resources and aerial imagery from online sources. Topographic data is usually sourced from the Environment Agency (LiDAR) unless derived from original ArchaeoPhysica survey.

Information from nearby ArchaeoPhysica surveys is consulted to inform upon local data character, variations across soils and near-surface geological contexts. Published data from other contractors may also be used if accompanied by adequate metadata.

3.4 Interpretive classes

3.4.1 Introduction

Key to interpretation is separation of each anomaly into broad classes, namely whether caused by agricultural processes (e.g. ploughing, composting, drainage etc.), geological factors or whether a structure of archaeological interest is likely. Within these anomalies are in turn classified by whether they most likely represent a fill or a drain, or a region of differing data texture, etc. More detailed descriptions are included below.

The actual means of classification is based upon geophysical understanding of anomaly formation, the behaviour of soils, landscape context and structural form. For example, to consider just one form of anomaly: weakly dipolar discrete magnetic anomalies of small size are likely to have shallow non-ferrous sources and are therefore likely to be pits. Larger ones of the same class could also be pits or locally-deeper topsoil but if strongly magnetic could also be hearths. Strongly dipolar discrete anomalies are in all cases likely to be ferrous or similarly magnetic debris, although small repeatedly heated and in-situ hearths can produce similar anomalies.

3.4.2 Agriculture – boundaries

Coherent linear dipolar enhancement of magnetic field strength marking ditch fills, narrow bands of more variable magnetic field or changes in apparent magnetic susceptibility, are all included within this category if they correlate with boundaries depicted on the Tithe Map or early Ordnance Survey maps. If there is no correlation then these anomaly types are not categorised as a field boundaries.

3.4.3 Agriculture – cultivation

Banded variations in apparent magnetic susceptibility caused by a variable thickness of topsoil, depositional remanent magnetisation of sediments in furrows or susceptibility enhancement through heating (a by product of burning organic matter like seaweed) tend to indicate past cultivation, whether ridge-based techniques, medieval ridge and furrow or post medieval 'lazy beds'. Modern cultivation, e.g. recent ploughing, is not included.

3.4.4 Agriculture – drains

In some cases it is possible to identify drainage networks either as ditch-fill type anomalies (typically 'Roman' drains), noisy or repeating dipolar anomalies from terracotta pipes or reduced magnetic field strength anomalies from culverts, plastic or non-reinforced concrete pipes. In all cases identification of a herring bone pattern to these is sufficient for inclusion within this category.

3.4.5 Archaeology – fills

Any linear or discrete enhancement of magnetic field strength, usually with a dipolar character of variable strength, that cannot be categorised as a field boundary, cultivation or as having a geological origin, is classified as a fill potentially being of archaeological interest. Fills are normally earthen and include an often invisible proportion of heated soil or topsoil that augments local magnetic field strength. Inverted anomalies are possible over non-earthen fills, e.g. those that comprise peat, sand or gravel within soil. This category is subject to the 'habitation effect' where, in the absence of other sources of magnetic material, anomaly strength will decrease away from sources of heated soil and sometimes to the extent of non-detectability.

Former enclosure ditches that contained standing water can promote enhanced volumetric magnetic susceptibility through depositional remanence and remain detectable regardless of the presence of other sources of magnetic material.

3.4.6 Archaeology – other discrete

This category is secondary to fills and includes anomalies that by virtue of their character are likely to be of archaeological interest but cannot be adequately described as fills. Examples include strongly magnetic bodies lacking ferrous character that might indicate hearths or kilns. In some cases anomalies of ferrous character may be included.

3.4.7 Archaeology – structures

On some sites the combination of plan form and anomaly character, e.g. rectilinear reduced magnetic field strength anomalies, might indicate the likely presence of masonry, robber trenches or rubble foundations. Other types of structure are only included if the evidence is unequivocal, e.g. small ring ditches with doorways and hearths. In some circumstances a less definite category may be assigned to the individual anomalies instead.

3.4.8 Archaeology – zones

On some sites it is possible to define different areas of activity on the basis of magnetic character, e.g. texture and anomaly strength. These might indicate the presence of middens or foci within larger complexes. This category does not indicate a presence or absence of anomalies possibly of archaeological interest.

3.4.9 Geology – discrete

On some sites, e.g. some gravels and alluvial contexts, there will be anomalies that can obscure those potentially of archaeological interest. They may have a strength equal to or greater than that associated with more relevant sources, e.g. ditch fills, but can normally be differentiated on the basis of anomaly form coupled with geological understanding. Where there is ambiguity, or relevance to the study, these anomalies will be included in this category.

3.4.10 Geology – zones

Not all changes in geology can be detected at the surface, directly or indirectly, but sometimes there will be a difference evident in the geological data that can be attributed to a change, e.g. from alluvium to tidal flat deposits, or bedrock to alluvium. It some cases the geophysical difference will not exactly coincide with the geological contact and this is especially the case across transitions in soil type.

3.4.11 Services

All overheard (OH) and underground (UG) services are depicted where these are detectable in the data or may influence aspects of the interpretation.

3.4.12 Texture

Geophysical data varies in character across areas, due to a range of factors including soil chemistry, near surface geology, hydrology and land use past and present. Where these variations are of interest or relevance to the study they are included in this category.

3.5 Standards & guidance

All work was conducted in accordance with the following standards and guidance:

- David et al, "Geophysical Survey in Archaeological Field Evaluation", English Heritage, 2008.
- "Standard and Guidance for Archaeological Field Evaluation", Institute for Archaeologists, 2008.

In addition, all work is undertaken in accordance with the high professional standards and technical competence expected by the Geological Society of London and the European Association of Geoscientists and Engineers.

All personnel are experienced surveyors trained to use the equipment in accordance with the manufacturer's expectations. All aspects of the work are monitored and directed by fully qualified professional geophysicists.

4 Discussion

4.1 Introduction

The sections below first discuss the geophysical context within which the results need to be considered and then specific features or anomalies of particular interest. Not all will be discussed here and the reader is advised to consult the graphical elements of this report.

4.2 Principles

In general, topsoil is more magnetic than subsoil which can be slightly more magnetic than parent geology, whether sands, gravels or clays, however, there are exceptions to this. The reasons for this are natural and are due to biological processes in the topsoil that change iron between various oxidation states, each differently magnetic. Where there is an accumulation of topsoil or where topsoil has been incorporated into other features, a greater magnetic susceptibility will result.

Within landscapes soil tends to accumulate in negative features like pits and ditches and will include soil particles with thermo-remanent magnetization (TRM) through exposure to heat if there is settlement or industry nearby. In addition, particles slowly settling out of stationary water will attempt to align with the ambient magnetic field at the time, creating a deposit with depositional remanent magnetization (DRM).

As a consequence, magnetic survey is nearly always more a case of mapping accumulated magnetic soils than structures which would not be detected unless magnetic in their own right, e.g. built of brick or tile. As a prospecting tool it is thus indirect. Fortunately, the mechanisms outlined above are commonplace and favoured by human activity and it is nearly always the case that cut features will alter in some way the local magnetic field.

4.2.1 Instrumentation

The use of the magnetic sensors in non-gradiometric (vertical) configuration avoids measurement sensitisation to the shallowest region of the soil, allowing deeper structures, whether natural or otherwise to be imaged within the sensitivity of the instrumentation. However, this does remove suppression of ambient noise and temporal trends which have to be suppressed later during processing. When compared to vertical gradiometers in archaeological use, there is no significant reduction in lateral resolution when using non-gradiometric sensor arrays and the inability of gradiometers to detect laminar structures is completely avoided.

Caesium instrumentation has a greater sensitivity than fluxgate instruments, however, at the 10 Hz sampling rate used here this increase in sensitivity is limited to about one order of magnitude.

The array system is designed to be non-magnetic and to contribute virtually nothing to the magnetic measurement, whether through direct interference or through motion noise. There is, however, some limited contribution from the towing ATV.

4.3 Character & principal results

4.3.1 Geology

The magnetic susceptibility of the site is sufficient for the identification of anomalies of potential archaeological interest, however the background data texture throughout the site is variable, which is likely to be a product of variations in both geology and soil type, depth and chemistry. For example, within the north-west field, a transition between the mudstone and siltstone to sandstone (all of the Crackington Formation) exists, which is also marked by a textural change within the dataset, highlighted by areas [6], [7] & [8]. This change in texture may be indicative of an associated variations in superficial cover.

Similar textural changes can also be seen at [17], [19], [20], [22] & [24], suggestive of an enhancement caused by contact between geological members and/or hydrological processes within the soil, likely due to increased waterlogging.

4.3.2 Land use

Past land use of the site is visible within the dataset. Groups of weakly enhanced, parallel magnetic field anomalies [5], [31] & [32] are likely to be a result of ridge and furrow cultivation. A series of areas containing weakly enhanced parallel anomalies [33], [34] & [35] is likely to pertain to field drains.

At the south extent of the survey, a strongly enhanced magnetic field anomaly [25] is the location of the extant base of a wind turbine.

Linear enhanced magnetic field anomalies extend through fields within the survey area and are historic field boundaries. Anomalies [11], [15], [23] are depicted within the 1840 Tithe map of the area, however pre-date the first edition Ordnance Survey (OS) map. Further linear enhanced magnetic field anomalies [26], [27], [28], [29] & [30] are depicted on both the 1840 Tithe and 1888 OS mapping.

There are numerous discrete enhanced magnetic field anomalies within the dataset. These are likely to be individual pieces of modern debris relating to agriculture and unlikely to be of archaeological interest.

4.3.3 Archaeology

Within the dataset, a series of enhanced magnetic field linear anomalies are likely to represent ditch-fills. For many of these anomalies, a definitive interpretation is difficult, and as such these may be of archaeological interest. It is likely that many of the anomalies relate to post-medieval field systems, pre-dating the earliest (1840 Tithe) map available. For example, linear enhanced magnetic field anomalies [1] & [2] appear to terminate at the historic field boundary to the east, and further linear enhanced magnetic field anomalies [10], [21] & [36] appear to denote straight boundaries extending through the fields. It is possible that enhanced magnetic field linear anomalies [16] and [12] may also relate to a former field system, associated with anomalies [11] & [15].

Enhanced magnetic field linear anomalies [3] & [4] may also relate to a field system, however the north extent of [3] appears to curve to the east, and may suggest an anomaly of potential archaeological interest.

Curvilinear enhanced magnetic field anomalies [9] & [14] may be of archaeological interest. These anomalies are however fragmentary in nature and may also relate to former boundaries within the fields.

Two areas of magnetic field enhancement [13] & [18] may be the result of natural accumulations of magnetically enhanced soils, however, they could also represent areas of soil deepened against or within former boundary structures.

4.4 Conclusions

The magnetic survey of the site has successfully been able to detect many anomalies which are likely to relate to past agricultural activity and potential archaeological interest. A series of linear enhanced magnetic field anomalies may relate to a post-medieval field system extending across the site. Other enhanced curvilinear anomalies have also been identified which may be of archaeological interest.

4.5 Caveats

Geophysical survey is a systematic measurement of some physical property related to the earth. There are numerous sources of disturbance of this property, some due to archaeological features, some due to the measuring method, and others that relate to the environment in which the measurement is made. No disturbance, or 'anomaly', is capable of providing an unambiguous and comprehensive description of a feature, in particular in archaeological contexts where there are a myriad of factors involved.

The measured anomaly is generated by the presence or absence of certain materials within a feature, not by the feature itself. Not all archaeological features produce disturbances that can be detected by a particular instrument or methodology. For this reason, the absence of an anomaly must never be taken to mean the absence of an archaeological feature. The best surveys are those which use a variety of techniques over the same ground at resolutions adequate for the detection of a range of different features.

Where the specification is by a third party ArchaeoPhysica will always endeavour to produce the best possible result within any imposed constraints and any perceived failure of the specification remains the responsibility of that third party.

Where third party sources are used in interpretation or analysis ArchaeoPhysica will endeavour to verify their accuracy within reasonable limits but responsibility for any errors or omissions remains with the originator.

Any recommendations are made based upon the skills and experience of staff at ArchaeoPhysica and the information available to them at the time. ArchaeoPhysica is not responsible for the manner in which these may or may not be carried out, nor for any matters arising from the same.

4.6 Bibliography & selected reference

ArchaeoPhysica, 2014 "Collacott Solar Park, Newton Tracey, Devon: Specification for Geophysical Survey" ArchaeoPhysica project CND141

Aspinall *et al*, 2008. "Magnetometry for Archaeologists", Geophysical Methods for Archaeology, Altamira Press

Blakely, 1996, "Potential Theory in Gravity and Magnetic Applications", Cambridge University Press

CgMs Consulting, 2014, "Heritage Assessment: Proposed Solar Park, Collacott Farm, Fremington, North Devon", CgMs Consulting Ref: RJC/18028/1

Cranfield University 2014. The Soils Guide. Available: www.landis.org.uk. Cranfield University, UK. Last accessed 14/11/2014

David *et al*, 2008, "Geophysical Survey in Archaeological Field Evaluation", English Heritage

Gaffney *et al*, 2002, "Technical Note 6: The use of geophysical techniques in archaeological evaluations", Institute for Archaeologists

Milsom, 2003, "Field Geophysics", 3rd edition, The Geological Field Guide Series, Wiley

Schmidt, A., 2013, "Geophysical Data in Archaeology: A Guide to Good Practice", ADS

Scollar, 1990, "Archaeological Prospecting and Remote Sensing", Topics in Remote Sensing 2, Cambridge University Press

Tarling *et al* (ed.), 1999, "Palaeomagnetism and Diagenesis in Sediments", Geological Society, London, Special Publications, 151

Telford *et al*, 1990, "Applied Geophysics", 2nd Edition, Cambridge University Press

5 Appendices

5.1 Project metadata

Project Name	Collacott Solar Park, Newton Tracey, Devon
Project Code	CND141
Client	CgMs Consulting
Fieldwork Dates	17th November 2014
Field Personnel	S Purvis, D Rouse, R Fry
Data Processing Personnel	R Fry, ACK Roseveare
Reporting Personnel	R Fry, MJ Roseveare
Draft Report Date	8th December 2014
Final Report Date	17th December 2014

5.2 Archiving

ArchaeoPhysica maintains an archive for all its projects, access to which is permitted for research purposes. Copyright and intellectual property rights are retained by ArchaeoPhysica on all material it has produced, the client having full licence to use such material as benefits their project. Access is by appointment only and some content is restricted and not available to third parties

Archive formation is in the spirit of Schmidt, A., 2013, "Geophysical Data in Archaeology: A Guide to Good Practice", ADS.

ArchaeoPhysica has a policy of contributing in time to the ADS Grey Literature library, usually after about six months post-dating release of the report. In addition, extracts of data images may be used, without reference to their source, in marketing and similar material. In these cases anything that might identify the project or client is removed.

5.3 ArchaeoPhysica

5.3.1 The company

ArchaeoPhysica has provided geophysical survey to archaeologists since 1998 and is consequently one of the oldest specialist companies in the sector. It has become one of the most capable operations in the UK, undertaking 1000 hectares of magnetic survey per annum. In addition 2D & 3D electrical, low frequency electromagnetic and radar surveys are regularly undertaken across the UK, also overseas. ArchaeoPhysica is the most established provider of caesium vapour magnetic survey in Europe, and holds probably the largest archaeological archive of total field magnetic data in the world. Unusually for the archaeological sector, key staff are acknowledged qualified geophysical specialists in their own right and regularly contribute to in-house and other research projects. For a number of years the company taught applied geophysics to Birkbeck College (London) undergraduate and post-graduate archaeology students, and developed a new and comprehensive course for the College.

All work is undertaken by qualified and experienced geophysicists who have specialised in the detection and mapping of near surface structures in archaeology and other disciplines using a wide variety of techniques. There is always a geophysicist qualified to post-graduate level on site during fieldwork and all processing and interpretation is undertaken under the direct influence of either the same individual or someone of similar qualifications and experience.

ArchaeoPhysica meets with ease the requirements of English Heritage in their 2008 Guidance "Geophysical Survey in Archaeological Field Evaluation" section 2.8 entitled "Competence of survey personnel". The company is one of the most experienced in European archaeological prospection and is a key professional player. It only employs people with recognised geoscience qualifications and capable of becoming Fellows of the Geological Society of London, the Chartered UK body for geophysicists and geologists.

5.3.2 Senior Geophysicist: Martin J Roseveare, MSc BSc(Hons) MEAGE FGS MIfA

Martin specialised (MSc) in geophysical prospection for shallow applications at the University of Bradford in 1997 and has worked in commercial geophysics since then. He was elected a Fellow of the Geological Society of London in 2009 and is also a full member of the Institute of Archaeologists. He has taught applied geophysics for Birkbeck College's archaeological degree students for a number of years. Professional interests outside archaeology include the application of geophysics to agriculture, also geohazard monitoring and prediction. He also has considerable practical experience of the improvement and integration of geophysical hardware and software. At ArchaeoPhysica Martin carries overall responsibility for all things geophysical and is often found writing reports or buried in obscure software and circuit diagrams. He was elected onto the EuroGPR and IfA GeoSIG committees in Autumn 2013.

5.3.3 Operations Manager: Anne CK Roseveare, BEng(Hons) DIS

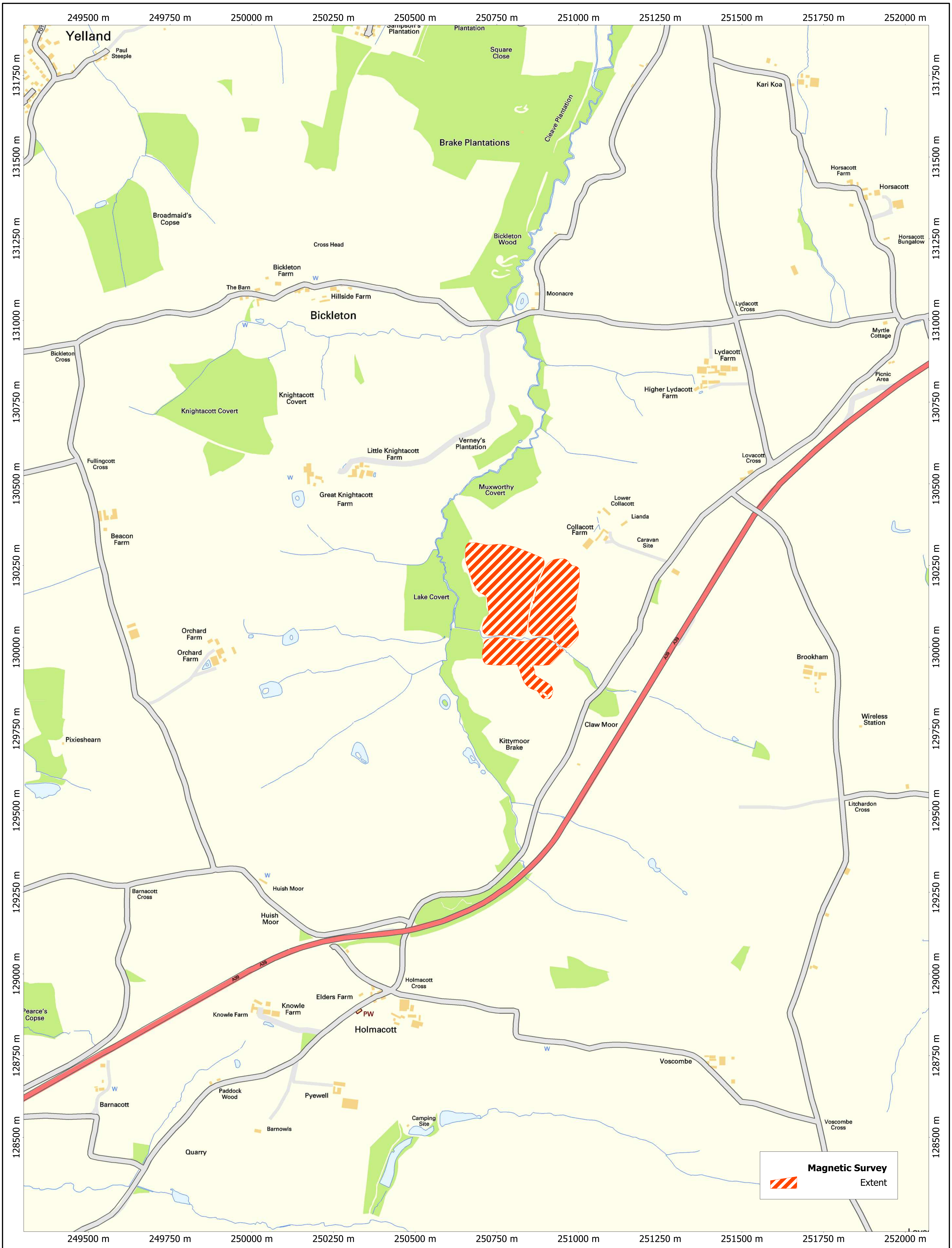
On looking beyond engineering, Anne turned her attention to environmental monitoring and geophysics and has since been applying specialist knowledge of chemistry & fluid flow to soils. She is member of the British Society of Soil Science and is interested in the use of agricultural applications of geophysics. Anne was the founding editor of the International Society for Archaeological Prospection (ISAP) and has spent many years walking fields in parallel lines. Much of her time now is spent managing complicated scheduling and logistics for ArchaeoPhysica, overseeing safety procedures and data handling, while dreaming of interesting places around the world to undertake surveys, including researching the urban archaeology of Asia.

5.3.4 Geophysicist: Robert Fry, PhD MSc BA(Hons)

Rob studied Archaeology B.A.(Hons.) at the University of Reading from 2004-07. His research was heavily influenced by geophysical techniques, and he helped organise and lead the magnetic survey of Silchester Roman Town. Following university, he joined the British School at Rome, conducting surveys in Spain, Italy and Libya. After working briefly as a geophysicist at Wessex Archaeology, Rob became Project Officer of The Silchester Mapping Project at the University of Reading. Since then, he has gained an MSc in Archaeological Prospection from the University of Bradford and recently completed his Doctorate with a thesis titled "Time-lapse geophysical investigations over known archaeological features using electrical resistivity imaging and earth resistance". Rob is currently also the editor of ISAP News. At ArchaeoPhysica Rob is normally found in the field or in the office besieged by colossal quantities of survey data.

5.3.5 Geophysicist: Samuel Purvis, MSc BSc(Hons)

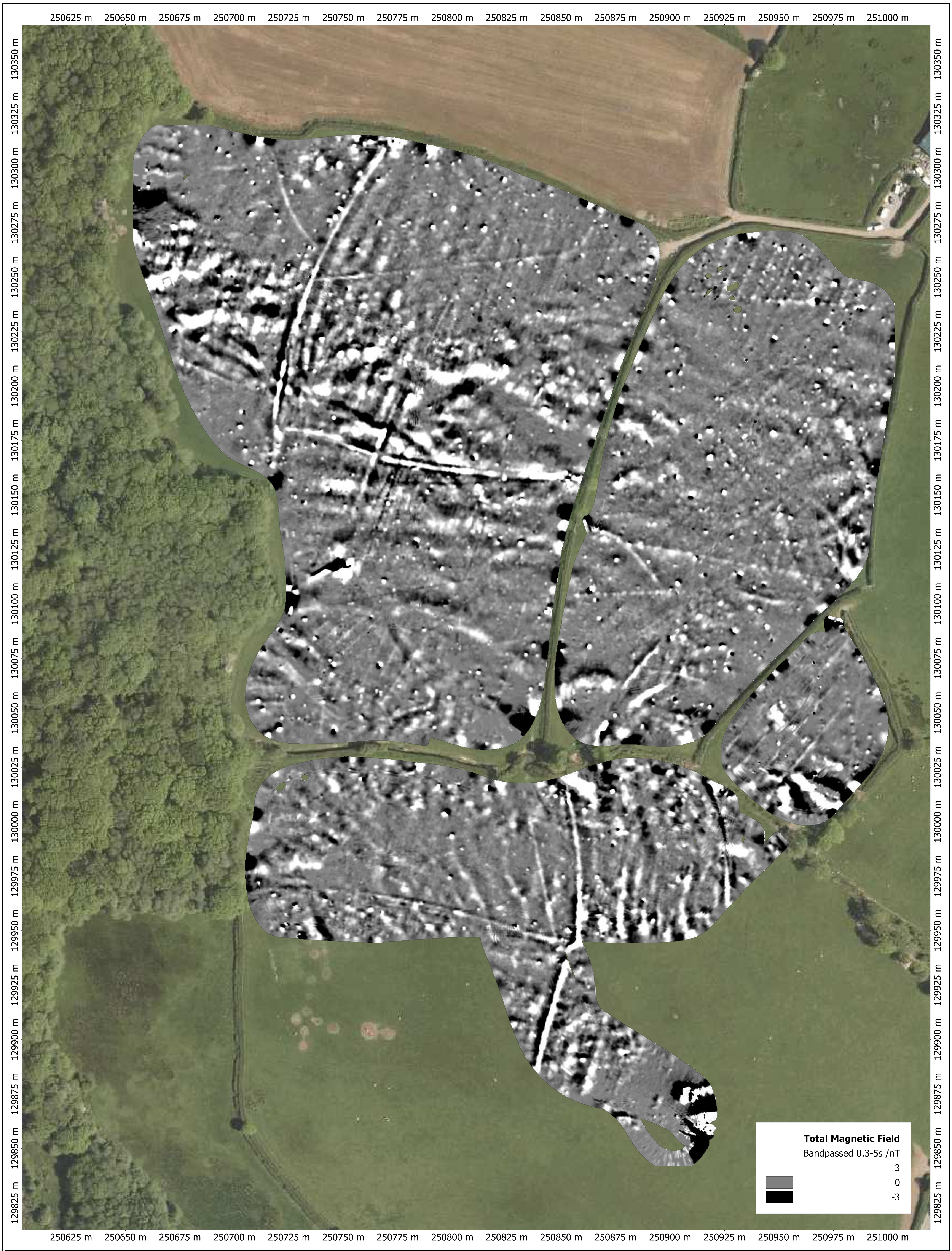
Sam studied Archaeology at The University of Bradford before progressing to a Masters in Archaeological Prospection. His primary research focus is on electromagnetic methods of shallow survey and is an expert with the newest multicoil electromagnetic instrumentation. Sam's main role at ArchaeoPhysica is technical, collecting high quality data, maintaining systems and keeping the show on the road.



CND141 Collacott Solar Park, Newton Tracey, Devon
DWG 01 Site Location

ArchaeoPhysica Ltd

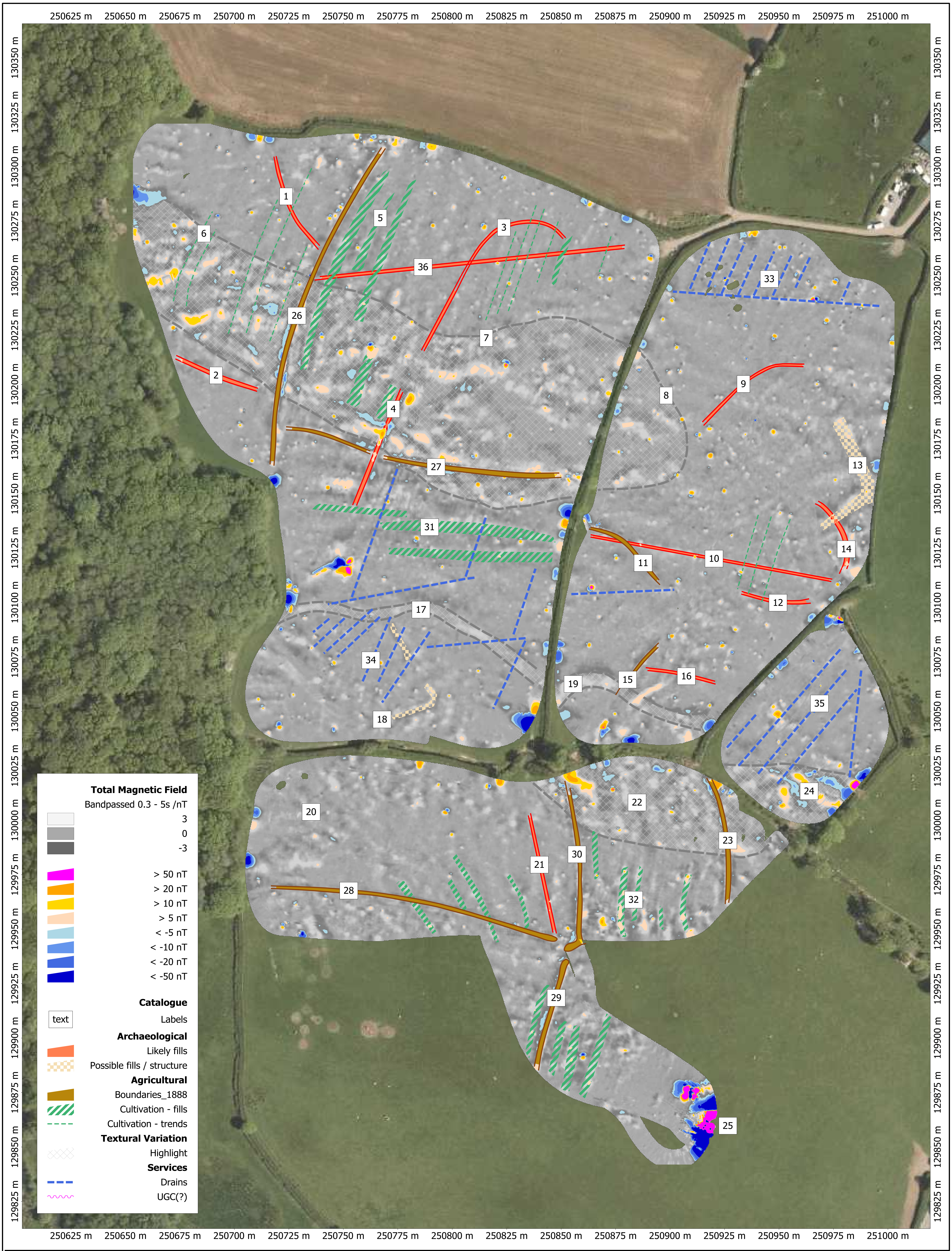
Orthographic Centre X: 250686.94 m Centre Y: 130057.59 m Scale: 1:10000 @ A3 Spatial Units: Meter. Do not scale off this drawing
File: CND141.map from DELHI 26/11/2014 Copyright ArchaeoPhysica Ltd 2014 OS OpenData Crown Copyright & Database Right 2014



CND141 Collacott Solar Park, Newton Tracey, Devon
DWG 02 Magnetic Data

ArchaeoPhysica Ltd

Orthographic Centre X: 250811.02 m Centre Y: 130089.11 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing



CND141 Collacott Solar Park, Newton Tracey, Devon
DWG 03 Interpretation

ArchaeoPhysica Ltd

Orthographic Centre X: 250811.02 m Centre Y: 130089.11 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing
File: CND141.map from DELHI 17/12/2014