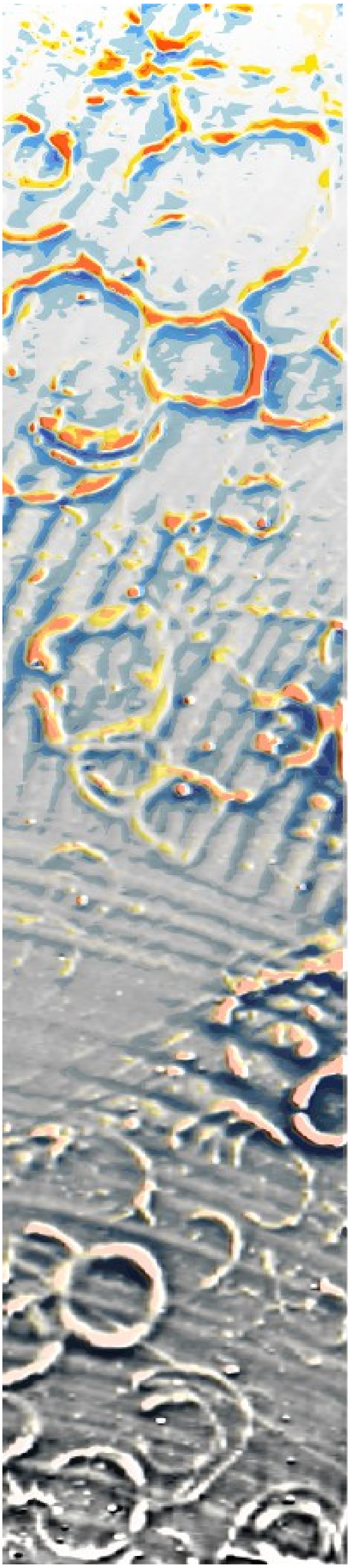

Land North of Whittington Hill
Whittington, Norfolk

Geophysical Survey Report
(Caesium Vapour Magnetic - Archaeology)

Produced for CgMs Consulting

Project code BWN151
HER Event ENF138843
OASIS id222954

28th September 2015

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Non-Technical Summary

A magnetic survey was commissioned by CgMs Consulting to prospect land off Ferry Road, Whittington, Norfolk for buried structures of archaeological interest.

A total of 8.5ha was surveyed across a single field with the dominant features being linear and polygonal periglacial features. An area of enhanced magnetic soils and ditch-like feature in the centre of the survey area may relate to former industrial activity, such as an area of burning or debris, while a ditch-like feature in the north is of likely agricultural origin.

The only features of potential archaeological interest are a group of linear ditch-like features forming two sides of a possible enclosure in the south-west corner.

Digital Data

Item	Sent to	Sent date
CAD – Vector Elements	Kirk Roberts	28th September 2015

Audit

Version	Author	Checked	Date
Interim			
Draft Final	MJ Roseveare, D Lewis	ACK Roseveare	28th September 2015
Final			28th September 2015
Revision			
OASIS Form Completion			29th September 2015

In line with Historic England guidance (David et al, 2008) we appreciate feedback from any subsequent work that provides insight into the nature of the ground and which can be used to better understand its geophysical properties. Photographs and reports are welcome and will of course be treated in confidence.

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1 Introduction

Land off Ferry Road, Whittington, Norfolk was magnetically surveyed to prospect for buried structures of archaeological interest.

The scope of the survey was set out in a Written Scheme of Investigation submitted to and approved by Norfolk County Council (ArchaeoPhysica, 2015). A total of 8.5ha was survey across a single field under arable management. At the time of the survey the crop had been harvested and the field left as stubble.

Country	England
County	Norfolk
Nearest Settlement	Whittington
Central Co-ordinates	573331, 299229

2 Context

2.1 Archaeology

The site has previously been subject to an archaeological desk-based assessment (CgMs Consulting, 2015). The following paragraphs are extracted from the summary of the assessment and state:

"This assessment has established that there are no designated or non-designated heritage assets on the site. Development within the site will not affect the significance of any designated heritage assets within the surrounding study area, due to their distance from the site and the screening provided by intervening built development."

"The site is considered to have a moderate potential for Prehistoric and Roman remains."

2.2 Environment

Soilscapes Classification	Shallow lime-rich soils over chalk or limestone
Superficial 1: 50000 BGS	None recorded on site, nearby deposits of peat and alluvium to the north
Bedrock 1:50000 BGS	Holywell Nodular Chalk Formation and New Pit Chalk Formation (HNCK)
Topography	Gently rising from north to south
Hydrology	Presumed fairly free draining, likely agricultural drains present
Current Land Use	Agriculture - arable
Historic Land Use	Mixed Agriculture
Vegetation Cover	Stubble
Sources of Interference	Slight interference along northern boundary

There is potential for periglacial striation, this having been observed within similar geological contexts nearby. If so, this can become confused with later cultivation furrows if these also exist. Otherwise, the magnetic background of the site is expected to be fairly uniform, possibly slightly mottled depending upon the thickness of soil above the chalk and the iron chemistry at the chalk : soil interface. At 1.6% for the general locality, the amount of soil iron is significantly lower than the national average.

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	Bandpassed 0.5 – 20s
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 (see Appendix 5.1).

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 feature 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. Interpretation always proceeds in a strict sequence of identifying the anomaly type, then the feature type and then finally the description. For both anomaly and feature types a fixed list of terms is used to ensure sufficient precision of categorisation and description.

The actual means of classification is based upon geophysical understanding of anomaly formation, the behaviour of soils, landscape context and structural form. For example, weakly dipolar discrete magnetic anomalies of small size are likely to have shallow non-ferrous sources and are therefore likely to be discrete fills, potentially of pits. Larger ones of the same anomaly class could also be fills or pockets of 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.

The following categories are used to describe anomalies of relevance to the interpretation:

- Environmental
    - geological contact - linear - e.g. between alluvial and other superficial deposits
    - geological or soil body - area - e.g. a soil-filled pocket within gravel
- Land use
    - cultivation-related - linear / area - e.g. ridge and furrow, headlands, etc.
    - land drainage - linear - might be ceramic or gravel-filled trenches, or plastic pipes
    - former boundary - linear - only identified if known to exist from Ordnance Survey and other historic mapping
    - former structure - area - used to highlight where buildings etc. have been removed
- Services
    - services (approximate line) – linear - includes pipes, cables and ducts, underground or above
- Archaeological or structural
    - void - area - self explanatory
    - discrete fill - area - commonly pit fills
    - linear fill - linear / area - typically ditch fills or accumulated soil
    - ferrous - point / linear - used only for significant sources

  - structure - area - used for masonry, platforms, floors, etc.
  - debris spread - area, used where there is definite evidence for material
- Other
  - reduced variable - used where no more detailed interpretation is possible but there is data to highlight
  - enhanced variable – as above

3.4.2 Geological sources – magnetic character

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.

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

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. These all contribute to the texture of the data, i.e. a background character against which all other anomalies are measured.

3.4.3 Agricultural sources - magnetic character

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 the category of former field boundaries if they correlate with those 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.

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.

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.

3.4.4 Archaeological sources – magnetic character

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 absence of other sources of magnetic enhancement.

Anything that cannot be interpreted as a fill tends to be a structure, or in archaeological terms, a feature. 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.

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.

It is sometimes 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 discrete anomalies of archaeological interest.

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

Magnetic survey for any purpose relies upon the generation of a clear magnetic anomaly at the surface, i.e. strong enough to be detected by instrumentation and exhibiting sufficient contrast against background variation to permit diagnostic interpretation. The anomaly itself is dependent upon the chemical properties of a particular volume of ground, its magnetic susceptibility and hence induced magnetic field, the strength of any remanent magnetisation, the shape and orientation of the volume of interest and its depth of burial. Finally the choice and configuration of measurement instrumentation will affect anomaly size and shape.

Archaeological sites present a complex mixture of these factors and for some the causative affects are not known. However, depth of burial and size are usually fairly constrained and background susceptibility can be estimated (or measured). The degree of remanent magnetisation is harder to predict and depends on both the natural magnetic properties of the soil and any chemical processes to which it has been subjected. Fortunately heat will raise the susceptibility of most soils and topsoil tends to be more magnetic than subsoil, by volume.

It is hard to draw reliable conclusions about what sort of geology is supportive of magnetic survey as there are many factors involved and in any case magnetic response can vary across geological units as well as being dependent upon post-deposition and erosional processes. In general a relatively non-magnetic parent material contrasting with a magnetisable erosion product, i.e. one which contains iron in the form of oxides and hydroxides, will allow archaeological structures to exhibit strong magnetic contrast against their surroundings and especially if the soil has been heated or subjected to certain processes of fermentation. In the absence of either, magnetic enhancement becomes entirely reliant upon the geochemistry of the soil and enhancement will often be weaker and more variable.

The principal magnetic iron mineral is the oxide magnetite which sometimes occurs naturally but is more often formed during the heating of soil. Subsequent cooling yields a mixture of this, non-magnetic oxide haematite and another magnetic oxide, maghaemite. Away from sources of heat, other magnetic iron minerals include the sulphides pyrite and greigite while in damp soils complex chemistry involving the hydroxides goethite and lepidocrocite can create strong magnetic anomalies. There are thus a number of different geochemical reaction pathways that can both augment and reduce the magnetic susceptibility of a soil. In addition, this susceptibility may exhibit depositional patterns unrelated to visible stratigraphy.

Most structures of archaeological interest detected by magnetic survey are fills within negative or cut features. Not all fills are magnetic and they can be more magnetic or less magnetic than the surrounding ground. In addition, it is common for fills to exhibit variable magnetic properties through their volume, basal primary silt often being more magnetic than the material above it due to the increased proportion of topsoil within it. However, a fill containing burnt soil may be much more magnetic than this primary silt and sometimes a feature that has contained standing water can produce highly magnetic silts through mechanical depositional processes (depositional remanent magnetisation, DRM).

A third structural factor in the detection of buried structures is the depth of topsoil over the feature. As fills sink, the hollow above accumulates topsoil and hence a structure can be detected not through its own magnetisation but through the locally deeper topsoil above it. The volume of soil required depends upon the magnetic susceptibility of the soil but just a few centimetres are often sufficient. Such a thin deposit can, however, easily be lost through subsequent erosion by natural factors or ploughing.

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.

4.3 Character & principal results

The following paragraphs represent an interpretive summary of the survey. The numbers in square brackets refer to individual magnetic anomalies described in detail in Appendix 5.2 and shown on DWG 04 onwards.

4.3.1 Data

The data is of good quality throughout the survey area with localised variation across the site corresponding with underlying soil and geological conditions.

4.3.2 Geology

There is some variation across the survey area with an area [1] of possible peat deposits in the north-west corner. More uniform magnetic texture [2] is typical of the natural variation over chalk deposits. Extensive periglacial features [3] are apparent across most of the site radiating from the central area of the southern boundary of the survey area. Here, the soil susceptibility is slightly lower and the dominant periglacial feature tends towards polygonal fracturing [4].

4.3.3 Land use

There is little evidence of former cultivation with the linear anomalies associated with periglacial features rather than medieval or post-medieval cultivation. An area of enhanced magnetic soil [5] and a possible ditch-like feature [6] are the result of burning or debris, perhaps relating to some form of industrial activity, while [7] is typical of agricultural debris.

A ditch-like linear anomaly [11] close to and parallel with the northern boundary may also be of agricultural origin.

4.3.4 Archaeology

There is only limited evidence for features of archaeological interest, with linear ditches [8] and [9] in the south-west corner forming two sides of a possible enclosure. A third linear feature [10] in the immediate area is magnetically weaker, possibly a field drain.

4.4 Conclusions

The dominant feature of the survey is the linear and polygonal periglacial features. An area of enhanced magnetic soils and a ditch-like feature in the centre of the survey area may relate to former industrial activity, such as an area of burning or debris, while a ditch-like feature in the north is of likely agricultural origin.

The only features of potential archaeological interest are a group of linear ditch-like features forming two sides of a possible enclosure in the south-west corner.

4.5 Caveats

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.

Project reports are usually submitted to the OASIS Grey Literature library as long a client confidentiality permits this. Where required, digital data and a copy of the report can be archived in a suitable repository, e.g. the Archaeology Data Service, in addition to our own archive.

The archive contains all survey and project data, communications, field notes, reports and other related material including copies of third party data (e.g. CAD mapping, etc.) in digital form. Many are in proprietary formats while report components are available in PDF format. In addition, there are paper elements to some project archives, usually provided by the client. Nearly all elements of the archive that are generated by ArchaeoPhysica are digital.

It is the client's responsibility to ensure that reports are distributed to all parties with a necessary interest in the project, e.g. local government offices, including the HER where present. ArchaeoPhysica reserves the right to display data rendered anonymous and un-locatable on its website and in other marketing or research publications.

4.6 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 Geophysical Survey", Chartered Institute for Archaeologists, 2014.

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.

4.7 Bibliography & selected reference

ArchaeoPhysica, 2015, "Land North of Whittington Hill Whittington, Norfolk: Specification for Geophysical Survey" Unpublished

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

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5 Appendices

5.1 Project metadata

Project Name	Land North of Whittington Hill, Whittington, Norfolk
Project Code	BWN151
Client	CgMs Consulting
Fieldwork Dates	18th September
Field Personnel	K Cunningham, J Wild
Data Processing Personnel	ACK Roseveare
Reporting Personnel	MJ Roseveare, D Lewis
Draft Report Date	28th September 2015
Final Report Date	28th September 2015

5.2 Catalogue

The numbers in square brackets in this report refer to the catalogue below and DWG 04.

Label	Anomaly Type	Feature Type	Description
1	Texture	Natural - Soil	Reduced field, not typical of chalk or limey soils, perhaps peat?
2	Texture	Natural - Soil	Uniform texture, perhaps low magnetic susceptibility, typical of natural variation present across chalk
3	Texture	Natural - Soil	Extensive periglacial features are apparent across most of the area as slightly sinuous linear enhanced field anomalies, not to be confused with former cultivation
4	Texture	Natural - Soil	The southern part of the site is associated with lower soil magnetic susceptibility and a slightly different periglacial structure, here tending towards polygonal fracturing
5	Area – raised MS	N/A	This may be an area of naturally magnetically enhanced soil, however, it appears to be associated with discrete feature [6] and hence there may be a spread of heated soil or similar debris
6	Discrete strong enhanced dipolar	Fill / magnetic soil	A strongly enhanced area likely to be caused by a strongly magnetic fill or spread of soil, in either case perhaps associated with heated soil or ceramic debris
7	Strong enhanced dipolar (sample)	Ferrous - Debris	Typical of normal agricultural debris
8	Linear enhanced dipolar	Fill - Ditch	Narrow ditch fill, perhaps part of an enclosure if [9] is taken into account
9	Linear enhanced dipolar	Fill - Ditch	See [8]
10	Linear enhanced dipolar	Fill - Ditch	Possible ditch fill or drain
11	Linear enhanced dipolar	Fill - Ditch	A weakly magnetic linear anomaly typical of a ditch fill, perhaps fairly deeply buried

6 Supporting information

6.1 Standards

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 in geophysical positions with recognised geoscience qualifications and capable of becoming Fellows of the Geological Society of London, the Chartered UK body for geophysicists and geologists.

All specification, data processing, interpretation and analysis 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, usually to post-graduate level.

All field personnel are trained to use the equipment in accordance with the manufacturer's expectations and internal procedures, to collect good quality data. All aspects of the fieldwork are monitored and directed by geophysicists.

All work is 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 Geophysical survey", Chartered Institute for Archaeologists, 2014;

and 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.

6.2 Who we are

6.2.1 ArchaeoPhysica

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. For a number of years ArchaeoPhysica has assisted the development of new high performance multisensor arrays which have been deployed across the UK.

6.2.2 Senior Geophysicist: Martin J Roseveare, MSc BSc(Hons) MEAGE FGS MCIfA

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 Chartered Institute for 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 CIfA GeoSIG committees in Autumn 2013.

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

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 a member of the British Society of Soil Science (BSSS) and is interested in the use of agricultural applications of geophysics, also co-opted onto the CIfA GeoSIG committee in 2014 as liaison for soil science with BSSS. Anne was the founding Editor of the International Society for Archaeological Prospection (ISAP) and previously spent many years walking fields in parallel lines & analysing data. Much of her time now is spent managing complicated scheduling and logistics for ArchaeoPhysica, overseeing safety procedures and data handling.

6.2.4 Principal Archaeologist: Daniel Lewis, MA BA(Hons) ACIfA

Daniel studied archaeology at the University of Nottingham and worked in field archaeology for many years, managing urban and rural fieldwork projects in and around Herefordshire. When the desk became more appealing he jumped into the world of consulting, working on small and large multi-discipline projects throughout England and Wales. At the same time, he returned to University, studying a part time MA in Historic Environment Conservation. With over 15 years experience in the heritage sector, Daniel has a diverse portfolio of skills. At ArchaeoPhysica he ensures that our geophysical work is well grounded in the archaeology, honing our specifications and reports and ensuring everything makes sense!

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: archaeop1-222594

Project details

Project name	Land North of Whittington Hill, Whittington, Norfolk
Short description of the project	Geophysical survey (magnetic) of proposed development site
Project dates	Start: 17-09-2015 End: 28-09-2015
Previous/future work	Not known / Not known
Any associated project reference codes	BWN151 - Contracting Unit No.
Any associated project reference codes	ENF138843 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 2 - Operations to a depth less than 0.25m
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Not recorded
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application
Solid geology	CHALK (INCLUDING RED CHALK)
Drift geology (other)	n/a
Techniques	Magnetometry

Project location

Country	England
Site location	NORFOLK KINGS LYNN AND WEST NORFOLK NORTHWOLD Land North of Whittington Hill, Whittington, Norfolk
Postcode	PE33 9RZ
Study area	8.5 Hectares
Site coordinates	TL 573331 299229 51.945058707661 0.28936404874 51 56 42 N 000 17 21 E Point

Project creators

Name of Organisation	ArchaeoPhysica Ltd
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	ArchaeoPhysica Ltd
Project director/manager	M. Roseveare
Project supervisor	M. Roseveare
Type of sponsor/funding body	Developer

Project archives

Physical Archive Exists?	No
Digital Archive recipient	ArchaeoPhysica Ltd
Digital Archive ID	BWN151
Digital Contents	"Survey"
Digital Media available	"Geophysics"
Digital Archive notes	Categories don't make sense
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land North of Whittington Hill Whittington, Norfolk: Geophysical Survey Report
Author(s)/Editor(s)	Roseveare, M.J.
Author(s)/Editor(s)	Lewis, D.
Other bibliographic details	BWN151
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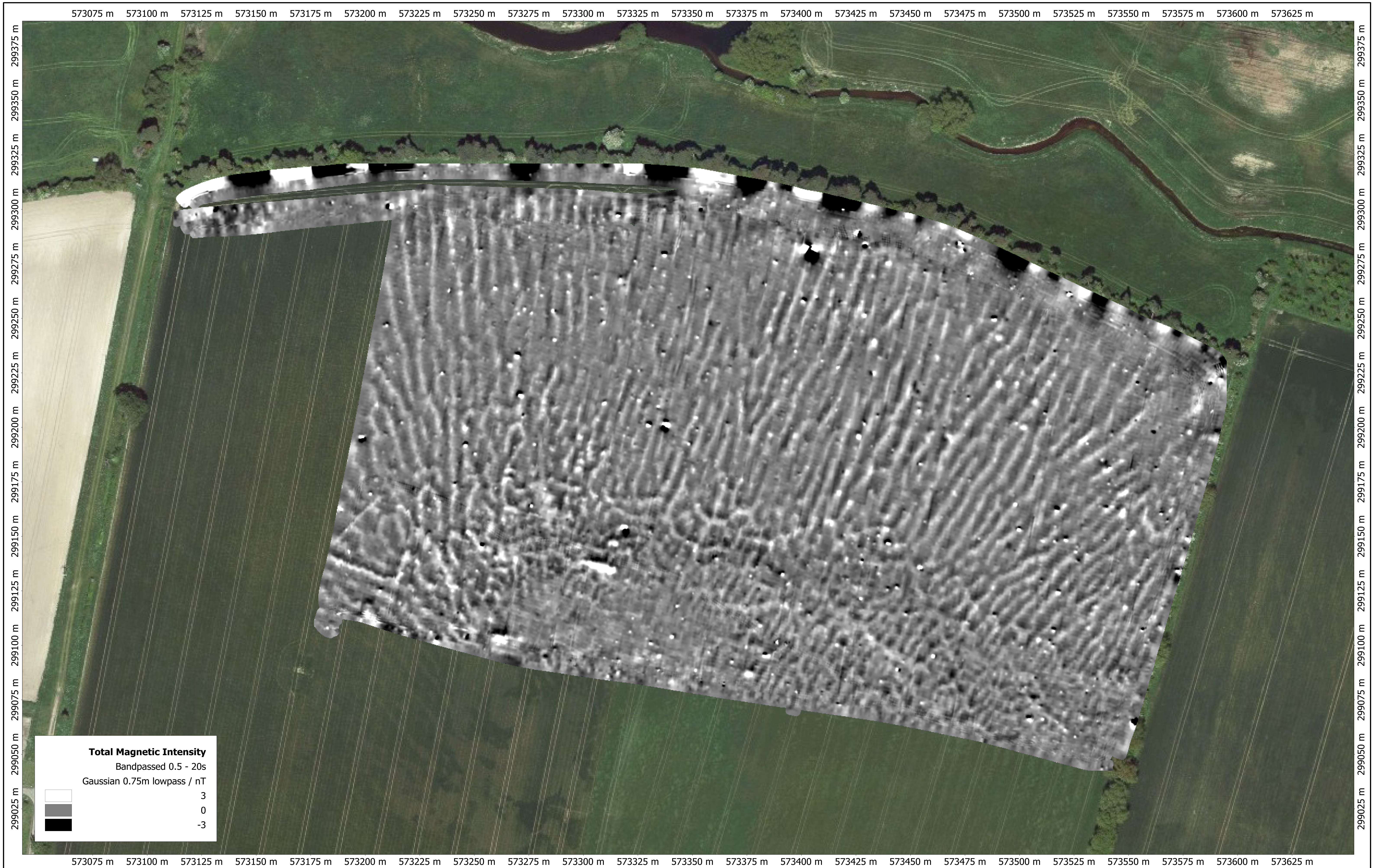
Entered by	Anne Roseveare (a.roseveare@archaeophysica.com)
Entered on	29 September 2015

OASIS:

BWN151 Land North of Whittington Hill, Whittington, Norfolk
DWG 01 Site Location

ArchaeoPhysica Ltd

Orthographic Centre X: 572694.93 m Centre Y: 298593.88 m Scale: 1:10000 @ A3 Spatial Units: Meter. Do not scale off this drawing
File: BWN151.map from PERSEPOLIS 28/9/2015



BWN151 Land North of Whittington Hill, Whittington, Norfolk

DWG 02 Magnetic Data

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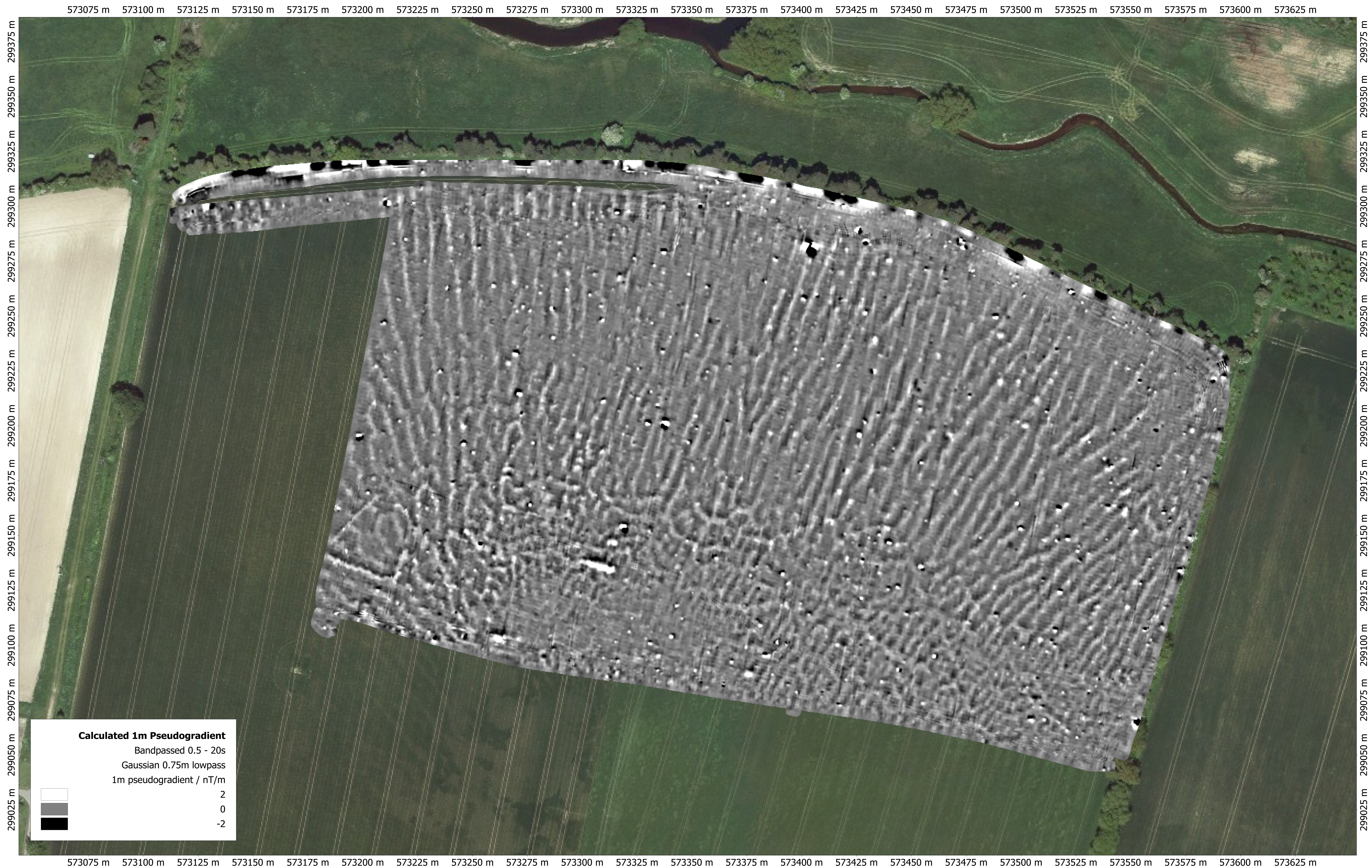
Orthographic Centre X: 573348.06 m Centre Y: 299195.23 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing

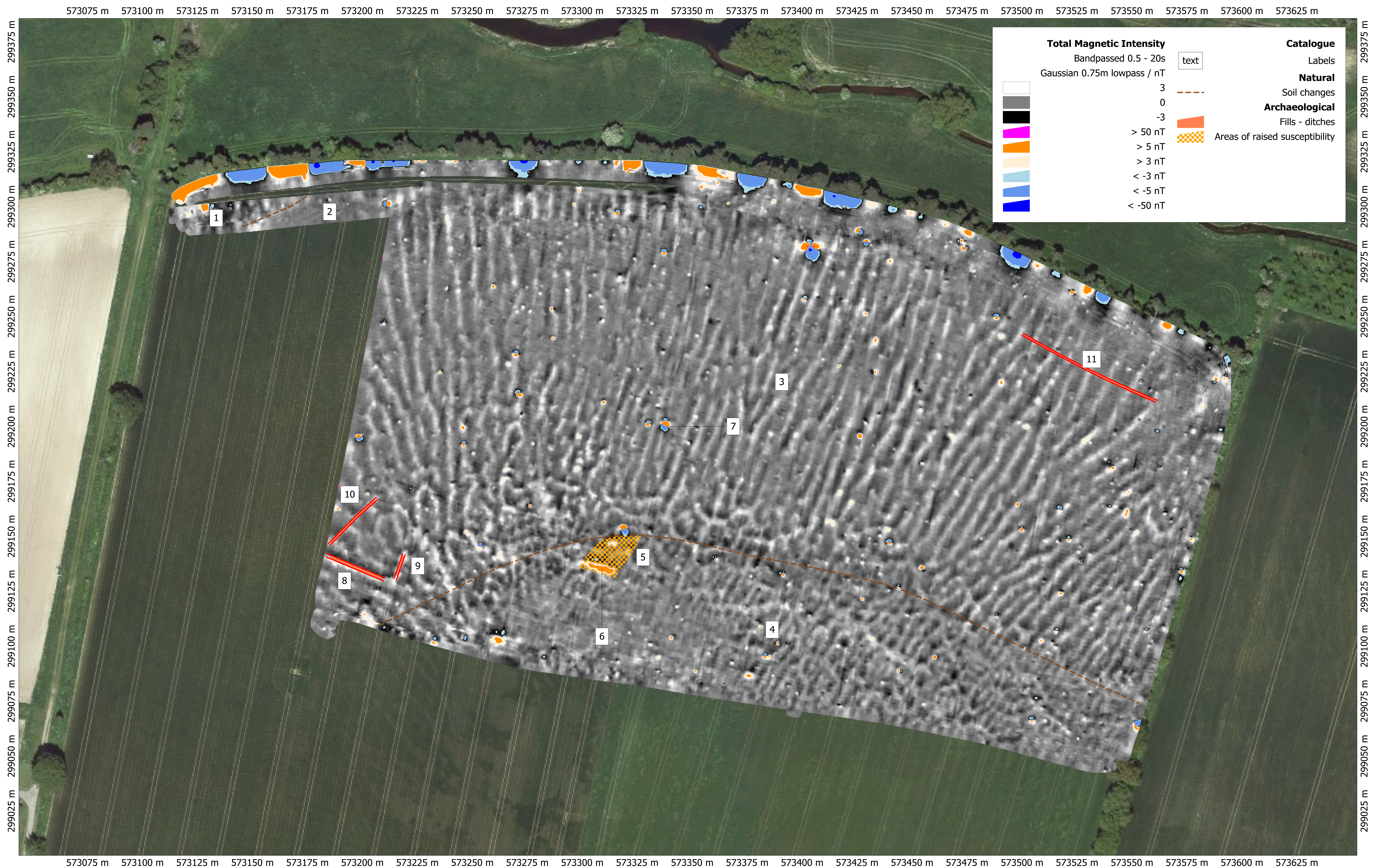
File: BWN151.map from PERSEPOLIS 28/9/2015



BWN151 Land North of Whittington Hill, Whittington, Norfolk
DWG 03 Magnetic Data (1m Pseudogradient)

ArchaeoPhysica Ltd

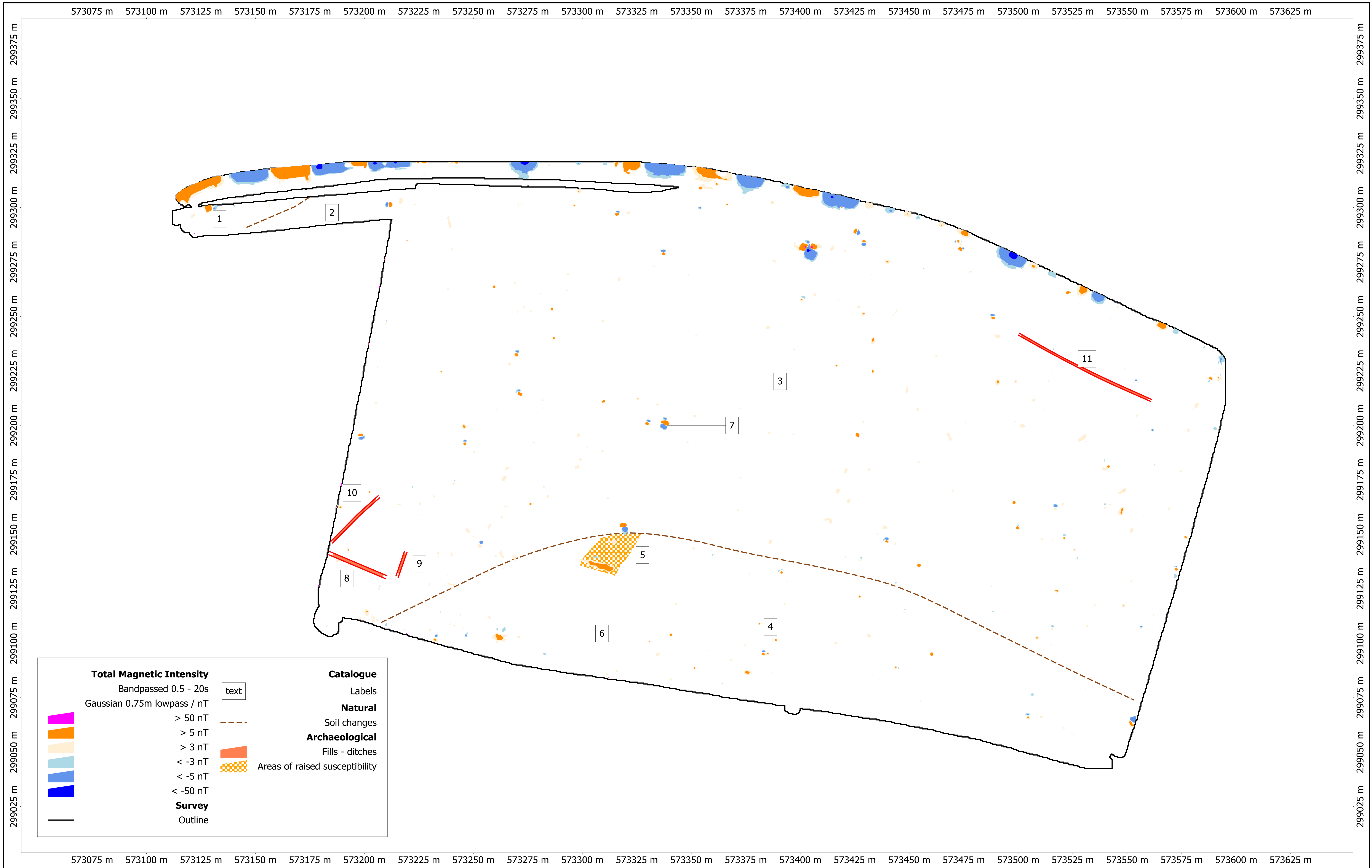
Orthographic Centre X: 573348.06 m Centre Y: 299195.23 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing
File: BWN151.map from PERSEPOLIS 28/9/2015



BWN151 Land North of Whittington Hill, Whittington, Norfolk
DWG 04 Interpretation

ArchaeoPhysica Ltd

Orthographic Centre X: 573348.06 m Centre Y: 299195.23 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing



BWN151 Land North of Whittington Hill, Whittington, Norfolk
DWG 05 Interpretation - Vector

ArchaeoPhysica Ltd

Orthographic Centre X: 573348.06 m Centre Y: 299195.23 m Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing
File: BWN151.map from PERSEPOLIS 28/9/2015