



Rossett, Wrexham Denbighshire

Geophysical Survey Report
(Caesium Vapour Magnetic - Archaeology)

Project code: RWB161

Produced for:

Castlering Archaeology

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Rossett, Wrexham, Denbighshire

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Non-Technical Summary

A magnetic survey was commissioned by Castlering Archaeology to prospect land at Rossett, Denbighshire for buried structures of archaeological interest.

Although complete coverage of the site was not possible due to poor ground conditions in the north-east corner, the magnetic survey has been successful and identified elements of the 19th century and probably older agricultural regimes.

The survey has also identified potential features of archaeological interest, including a tentative interpretation of a prehistoric burnt mound and an area of activity to the south of the road, where a series of possible enclosures have been identified.

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1 Introduction

Land at Rossett, Denbighshire was surveyed to prospect for buried structures of archaeological interest. Survey was undertaken using caesium vapour magnetometry technology mounted on a GPS-tracked lightweight sledge towed by an ATV.

Problematic ground conditions in the pasture field to the north prevented coverage of 0.6 ha; photographs of the field situation are available on request.

Country	Wales
County	Denbighshire
Nearest Settlement	Rossett
Central Co-ordinates	337280, 357308

2 Context

2.1 Background information

The proposed survey area and its wider environs has been subject to desk-based assessment by Castlering Archaeology (2016).

The assessment includes a review of previously recorded heritage assets within the study area and confirms there are none known within the proposed survey area. The land was subject to agricultural use from at least the 1840s and with only minor boundary changes up to the first edition Ordnance Survey.

A review of available aerial photographs has identified the alignment of former field boundaries depicted on cartographic sources and, in the northern field, a depression surrounding an oval area of slightly raised ground. In the southern field an enclosure and the possible foundations of a rectangular building (PRN 1000079) have also been identified.

2.2 Environment

Soilscapes Classification	Freely draining slightly acid loamy soils
Superficial 1: 50000 BGS	River Terrace Deposits (undifferentiated) – Sand and Gravel Alluvium – Clay, Silt, Sand and Gravel
Bedrock 1:50000 BGS	Salop Formation – Mudstone, Sandstone and Conglomerate
Topography	Flat land
Hydrology	Natural with enhanced agricultural drainage
Current Land Use	Mixed agricultural
Historic Land Use	Mixed agricultural
Vegetation Cover	Pasture

The response of magnetic survey is dependent upon the soil's ability to support magnetic susceptibility enhancement and therefore the parent material and land use. The response from soils derived from the mudstone is presumed to be muted but satisfactory and will depend upon the sandiness of the soil and to what degree weathered bedrock dominates.

The soils in this area are generally fairly non-magnetic with G-BASE soil iron at about 2.3% compared with a national average of about 4%. This means that anomalies from fills, e.g. ditches, may not exhibit much contrast against their surroundings. Some variation may exist due to variable hydrology across the site and hence anomalies may not have a uniform character even where produced from the same underlying feature. It is common for magnetic field anomalies associated with linear features such as ridge and furrow cultivation to have irregular magnitudes across an area and therefore the production of a coherent plan of buried structures is sometimes not possible. For this site specifically, the archaeological interpretation is not thought to have been affected.

3 Discussion

3.1 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.

3.2 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.

3.2.1 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.

3.3 Character & principal results

The following paragraphs represent an interpretive summary of the survey. The numbers in square brackets refer to individual anomalies described in detail in the catalogue below and shown on DWG 03 onwards.

3.3.1 Data

The data is fairly uniform throughout the survey area, although along the boundaries to the modern residential estates [4] and the central road [7], very strong anomalies probably relate to ferrous items or debris spread (rubbish) associated with their construction. Away from these the texture of the data is good for the interpretation of potential archaeological features.

3.3.2 Geology

The geology of the site supports moderate magnetic contrast, sufficient for the identification of features of archaeological interest. The background texture is fairly uniform, implying that the river terrace deposits are only smoothly variable and with only a few signs of former channels and features associated with deposition and reworking. Much of the variation that is evident is due to changes in the soil and the top of the superficial deposits due to the former presence of ridge and furrow cultivation [3] or orchard banks [16].

3.3.3 Land use

The long agricultural use of the land is reflected by former field boundaries identified throughout the survey area. In the northernmost corner, a linear anomaly [1] is probably part of a drainage structure or field system associated with [8], [18] and [19] which are all depicted on cartographic sources. There is evidence of medieval or later ridge and furrow cultivation [3] in this area and it appears to respect [19] and cross [8], suggesting the former is at least contemporary. An area of linear anomalies [5] in the south-west corner may be agricultural, perhaps field drains or a different alignment of ridge and furrow cultivation.

There is no evidence for ridge and furrow cultivation in the southern field, although linear anomalies form a coherent field system and correspond with known field boundaries depicted on cartographic sources. The field boundaries are located to the south of the existing farm and within them northernmost are a series of parallel bands [16] associated with a former orchard. Further south a series of linear field drains in the south-east of the southern field were also identified and are highlighted as a dashed blue-line on DWG03.

A very strong magnetic anomaly [17] is located close to the former field boundaries and probably represents a spread of debris or a large ferrous object. It is roughly in the location of the rectangular cropmark, previously interpreted as a building following its identification on aerial photographs.

3.3.4 Archaeology

In the northern field an area of strongly enhanced magnetic anomalies [6] may be of archaeological interest. Perhaps the fill of a former hollow, given the location of spring lines and other sources of water, alternatively the spread of material could also be typical of a burnt mound and may thus have a prehistoric origin, although this interpretation is tentative.

To the south of the road is a possible enclosure ditch [10] with perhaps an internal feature [11]. To the south of this is a more enigmatic set [12] of anomalies that might be interpretable as a ditch fill and to the east a ditch [13] that might pre-date the road if an apparent northern continuation is real. A second possible enclosure ditch may exist at [14]. Further south a set [15] of anomalies similar to [12] might mark a further ditch fill.

3.4 Conclusions

The magnetic survey has identified several elements of the 19th century (and possibly older) agricultural regime. It has also identified potential features of archaeological interest, including a tentative interpretation of a possible prehistoric burnt mound and an area of activity to south of the road, where a series of possible enclosures have been identified.

3.5 Catalogue

The numbers in square brackets in this report refer to the catalogue below and DWG 03.

Label	Anomaly Type	Feature Type	Description
1	Linear enhanced dipolar	Fill / drain	
2	Texture	Natural	No sign of cultivation
3	Texture	Ridge and furrow	Cultivation outside the enclosure defined by [19] but apparently not within. The cultivation seems to cross the line of linear feature [8]. On the western side of the northern field there seems to be a second set at a slight angle to the other
4	Variable strong dipolar (sample)	Debris	Likely to be modern, associated with house construction nearby
5	Weak linear reduced (group)	Uncertain	Unlikely to be natural, may be modern, might relate to drainage although could be agricultural. There is evidence for reorganisation of the landscape here if the different alignment of ridge and furrow is correct
6	Variable weak dipolar (group)	Debris? / Burnt mound?	Perhaps fill within a former hollow, however, given the former presence of a nearby springs and the other sources of water in this field this spread of material could also relate to a burnt mound
7	Variable strong dipolar (sample)	Debris	It is unknown why this corner of the field has a concentration of strongly magnetic debris, likely modern. Perhaps it was introduced to improve the ground
8	Linear strong dipolar	Drain?	A probable drainage structure, either associated with a magnetic element like ceramics or with a ditch with a depositional remanent primary fill, for which still standing water is required
9	Texture	Natural / Heated ground?	Sometimes a patch of more magnetic susceptible ground such as this appears to be can be caused by cyclic heating, e.g. the site of a regular bonfire. However, variations in soil drainage can have a similar effect
10	Linear dipolar	Fill - Ditch?	Possible enclosure ditch, arc about 23-25m diameter
11	Discrete strong enhanced	Fill - Pit / Hearth? / Debris	Itself of no obvious significance except that it lies at the apparent centre of the arc described by [10]
12	Discrete enhanced (group)	Fills? - Ditch? / Natural	Perhaps elements of the fill within an enclosure ditch? Uncertain

13	Linear enhanced dipolar	Fill - Ditch	This might be a former field boundary but it does not appear on any known map from the Tithe Map onwards. Its alignment might have crossed the line of the existing road
14	Linear enhanced dipolar	Fill - Ditch?	Uncertain, possible enclosure?
15	Discrete enhanced (group)	Fills? - Ditch? / Natural	Perhaps elements of the fill within an enclosure ditch?
16	Texture	Orchard	A series of parallel bands of apparently raised magnetic field strength are probably the sire of ridges associated with an orchard that once existed within this enclosure
17	Strong magnetic enhanced dipolar	Debris? / Structure?	Uncertain origin, perhaps a large buried ferrous object
18	Linear enhanced	Fill - Ditch?	Possible SW continuation of former field boundary, curving NW parallel to second set of former cultivation
19	Linear enhanced	Drain?	A probable drainage structure, either associated with a magnetic element like ceramics or with a ditch with a depositional remanent primary fill, for which still standing water is required

3.6 Caveats

Geophysical survey is reliant upon the detection of anomalous values and patterns in physical properties of the ground, e.g. magnetic, electromagnetic, electrical, elastic, density and others. It does not directly detect underground features and structures and therefore the presence or absence of these within a geophysical interpretation is not a direct indicator of presence or absence in the ground. Specific points to consider are:

- some physical properties are time variant or mutually interdependent with others;
- for a buried feature to be detectable it must produce anomalous values of the physical property being measured;
- any anomaly is only as good as its contrast against background textures and noise within the data.

TigerGeo will always attempt to verify the accuracy and integrity of data it uses within a project but at all times its liability is by necessity limited to it's own work and does not extend to third party data and information. Where work is undertaken to another party's specification any perceived failure of that specification to attain its objective remains the responsibility of the originator, TigerGeo meanwhile ensuring any possible shortcomings are addressed within the normal constraints upon resources.

4 Methodology

4.1 Survey

4.1.1 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

4.1.2 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.

4.2 Data processing

4.2.1 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	Highpassed 10s
Gridding	Surfer	Kriging, 0.25m x 0.25m
Smoothing	Surfer	Gaussian lowpass 0.75m
Imaging and presentation	Manifold GIS	

Potential field processing procedures are used where possible on gridded data from the above processing, allowing simulation of vertical gradient data, separation of deep and shallow magnetic sources, etc. 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.

4.3 Interpretation

4.3.1 Introduction

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 (for the UK) is sourced only from British Geological Survey resources and aerial imagery from online sources. LiDAR data is usually sourced from the Environment Agency or other national equivalents, SAR from NASA and other topographic data from original

survey.

Information from nearby 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.

4.3.2 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.

4.3.3 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.

4.3.4 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.

4.4 Bibliography & selected reference

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4.5 Archiving and dissemination

An archive is maintained for all projects, access to which is permitted for research purposes. Archaeological project reports are usually submitted to the OASIS Grey Literature library as long as 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.

5 Supporting information

5.1 Standards (Archaeology)

TigerGeo 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". It employs members of the Chartered Institute for Archaeologists (professional grades), Fellows of the Geological Society of London and Full Members of the British Society of Soil Science. The company management have over 30 years of experience of commercial near surface geophysical survey.

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 features using a wide variety of techniques. All field personnel are geophysicists trained to use the equipment in accordance with the manufacturer's expectations and internal procedures.

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;

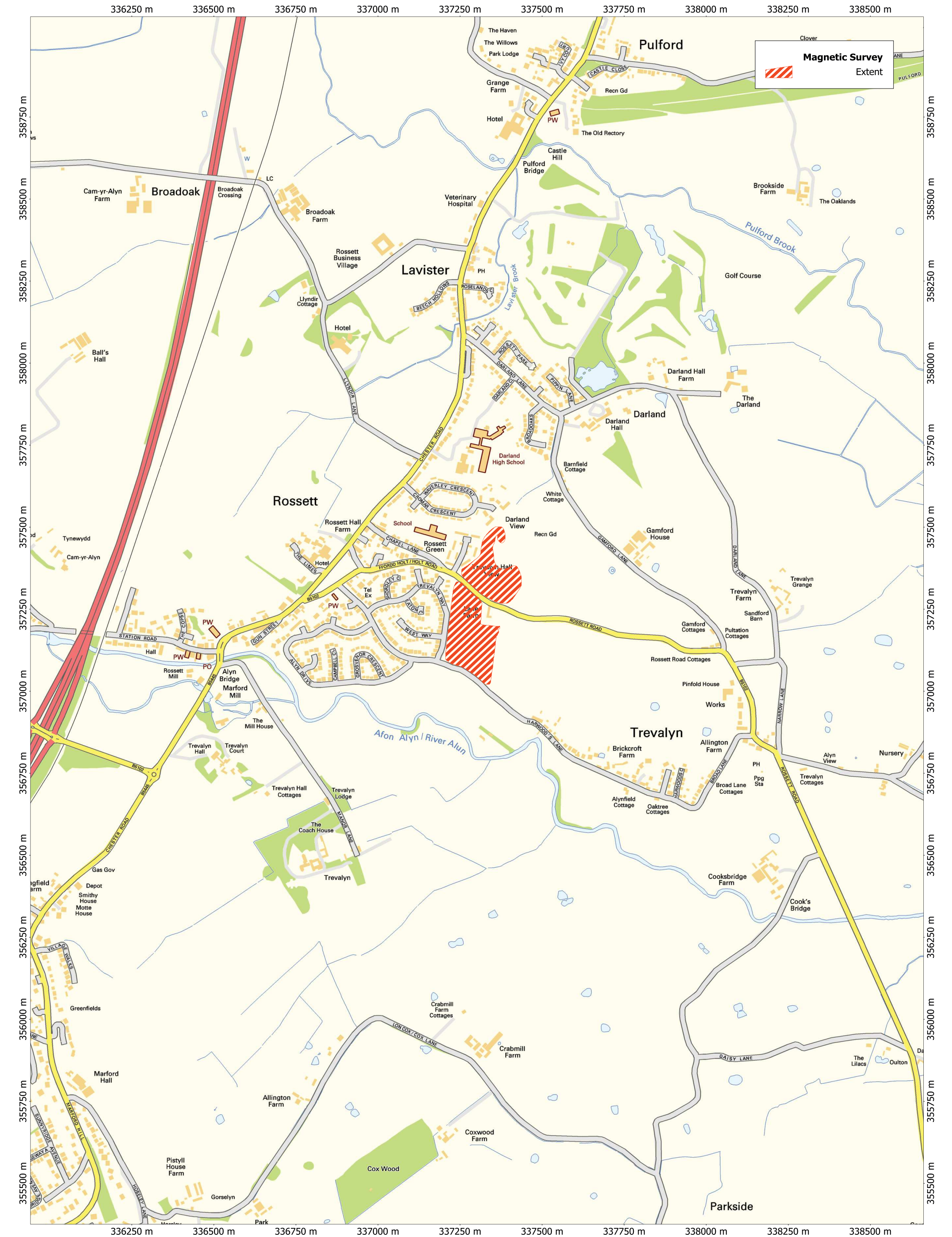
and undertaken in accordance with the high professional standards and technical competence expected by the Geological Society of London and the European Association of Geoscientists and Engineers.

TigerGeo is in the process of applying to the Chartered Institute of Archaeologists to become a Registered Organisation. ISO 9001 and 14001 accreditation is also sought.

5.2 Who we are

Senior Geophysicist (Quality manager)	Martin 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 now working towards achieving CSci. He is a full member of the Chartered Institute of Archaeologists and a member of the Near Surface division of the European Association of Geoscientists & Engineers. He serves on the EuroGPR and CIfA GeoSIG committees and has served on the scientific committees of the 10 th and 11 th Archaeological Prospection conferences, has reviewed papers for the EAGE Near Surface conference, was a technical reviewer of the Irish NRA geophysical guidance and is also a founding member of the ISSGAP soils group. Martin is also a former tutor for archaeological geophysics at Birkbeck College, London. Professional interests include the application of geophysics to agriculture and the environment, e.g. groundwater and geohazards. He is also a software writer and equipment integrator with significant experience of embedded systems. Beyond the day job Martin has worked in technical theatre, is an aspirant lighting designer and is being classically trained in tabla playing.	
Operations Manager (Safety manager)	Anne 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 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, overseeing safety procedures and data handling, while dreaming of interesting places around the world to undertake surveys, including researching the urban archaeology of Asia. Closer to home she is a student of the classical Indian dance form, kathak and is learning Hindi.	

Lead Geophysicist (Archaeology)	Dr. Kayt Armstrong PhD MSc BA(Hons)
Kayt completed her PhD at the University of Bournemouth (UK) in 2010, looking at geophysical approaches to archaeological prospection in peat. She held a post-doctoral position at the University of Groningen from 2011-2014, working on rural Bronze Age settlements in Southern Italy, and Roman roadside settlements along the via Appia. This was followed by an appointment at the Institute for Mediterranean Studies FORTH in Crete. Her research interests include geophysics, social archaeology, GIS, and prehistory. She is particularly interested in extending conventional surveys into unconventional environments, and when she isn't running around a field doing geophysics, she's running around a field chasing orcs.	
Lead 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 Dan 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. Here he ensures that geophysical work within the heritage sector is well grounded in the archaeology. His spare time includes much running up mountains.	
Geophysicist	Kathryn Cunningham BSc(Hons) FGS
Kathryn's interest in geology began while working as a nature guide in the Kruger National Park in South Africa. This motivated her to earn a BSc (Hons) in Applied Geology at Plymouth University (GeoSoc accredited degree) with interests in field work, GIS and engineering geology. Upon graduating in 2015, she then joined TigerGeo and has not looked back. Her role in TigerGeo primarily involves ensuring the smooth running of field work in a range of methods, with increasing responsibilities involving processing and interpretation. Outside of the working week, she usually enjoys acrobatics and jigsaws.	
Geophysicist	Jack Wild BSc(Hons)
Down to earth and a recent Plymouth University graduate in geology (GeoSoc accredited degree) Jack entered the world of shallow geophysics with an Atkinson Leapfrog. Happiest when in the field he has undertaken geological projects Europe wide including in Sicily and the Spanish Pyrenees and closer to home has studied much of the Cornish and Devon coast. The mystery of what lies below drives his interest in the collection and interpretation of high quality data - be it from magnetometry or GPR he just can't resist(ivity)!	



RWB161 Rossett, Wrexham, Denbighshire
DWG 01 Site Location

Orthographic Scale: 1:10000 @ A3 Spatial Units: Meter. Do not scale off this drawing
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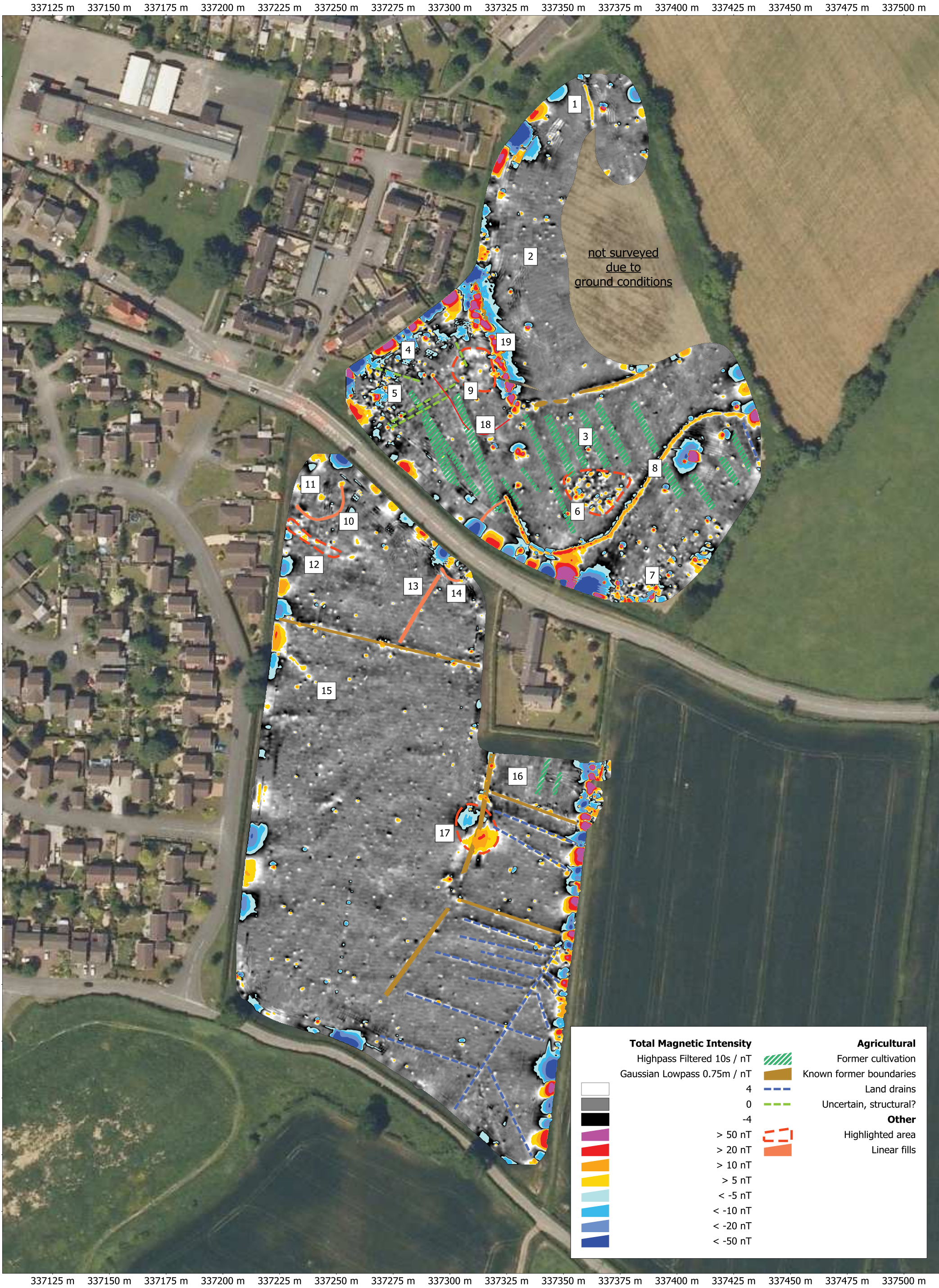




RWB161 Rossett, Wrexham, Denbighshire
DWG 02 Magnetic Data

Orthographic Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing
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RWB161 Rossett, Wrexham, Denbighshire
DWG 03 Interpretation

Orthographic Scale: 1:1500 @ A3 Spatial Units: Meter. Do not scale off this drawing
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