
GEOPHYSICAL SURVEY REPORT

Project

ARCHAEOLOGICAL MAGNETIC GRADIOMETRY SURVEY

Location

**Land west of Mount Road, Cefn Rhigos, Rhondda
Cynon Taf**

Client

REWE 11 Ltd

Head Office

Unit 1 Link Trade Park

Penarth Road

Cardiff CF11 8TQ

United Kingdom



Telephone: +44 (0)2920 700127

www.terradat.co.uk

Job reference: 9139

Date: Feburary 2025

Version: 2

GEOPHYSICAL SURVEY REPORT

Project

Archaeological Magnetic Gradiometry Survey

Location

Land west of Mount Road, Cefn Rhigos, Rhondda Cynon Taf

Client

REWE 11 Ltd

Archaeological consultant: T Young MA PhD FGS FSA

Project geophysicist: C Bird BSc FGS

Reviewer: S Hughes PhD BSc FGS

Job Reference: 9139

Date: February 2025

Revisions

Version	Status	Date	Author	Reviewer	Description of Changes
1.0	Draft	12/11/2023	C Bird	S Hughes	Final Draft
2.0	Final	27/02/2025	C Bird	S Hughes	Updated maps

CONTENTS

1	EXECUTIVE SUMMARY	4
2	INTRODUCTION	5
2.1	Site Description	5
2.2	Geological setting	6
2.2.1	Solid Geology	6
2.2.2	Superficial Geology	7
2.2.3	Soil Type	7
2.3	Topography	7
2.4	Archaeological setting	8
2.5	Survey objectives	9
2.6	Quality control	9
3	SURVEY DESCRIPTION	10
3.1	Topographic survey/grid layout.....	10
3.2	Magnetic survey	10
3.2.1	Magnetic survey - field activity	10
3.2.2	Magnetic survey - data processing	11
4	RESULTS AND DISCUSSION	14
4.1	List of Figures.....	14
4.2	Magnetic gradiometry	15
5	GEOPHYSICAL INTERPRETATION AND DISCUSSION.....	16

List of figures

- Figure 1. Raw magnetic gradiometry data presented at +/-4nT
- Figure 2. Summary archaeological interpretation
- Figure 3. Summary archaeological interpretation with topography

List of Plates

- Plate 1. Site location
- Plate 2. Detail of the site and survey area
- Plate 3. Topography of the site and surrounding area
- Plate 4. John Deer Gator and Sensys Magneto MXV3
- Plate 5. TerraDat proprietary software MagMerge
- Plate 6. Raw data (left) and filtered data (right)
- Plate 7. Key to be used in conjunction with the interpretive plots

List of Tables

- Table 1. Processing steps applied to the raw magnetic gradiometry data.

1 EXECUTIVE SUMMARY

This report describes a geophysical survey conducted on October 4, 2024, at Land west of Mount Road, Cefn Rhigos, Rhondda Cynon Taf.

The proposed development site (PDS) is being considered for housing a Battery Energy Storage System (BESS). As part of the pre-planning archaeological assessment of the site, a geophysical survey is required to identify any features of potential archaeological importance.

The PDS comprises rough, unimproved agricultural land west of Mount Road, Cefn Rhigos. The survey area is centred on OS coordinates 291200 207000; the full extent of the option area covers ~13ha. The northern and eastern extents of the site comprise inaccessible areas of marshland; this leaves a potential survey area measuring ~8ha, which incorporates most of the development area.

The survey identified no sites of potential archaeological interest:

2 INTRODUCTION

This report describes a geophysical survey conducted on land west of Mount Road, Cefn Rhigos, Rhondda Cynon Taf. Plate 1 shows the site's location. The survey was conducted on the 4th of October 2024.

The proposed development site (PDS) is being considered for housing a Battery Energy Storage System (BESS). As part of the pre-planning archaeological assessment of the site, a geophysical survey is required to identify any features of potential archaeological importance. Plate 2 indicates the extent of the proposed survey area. The white polygon represents the extent of the surveyable area; the grey area was inaccessible at the time of the survey. The final development area of the BESS is indicated on the drawing.

2.1 Site description

Cefn Rhigos is located in the upper Neath Valley of South Wales. The site lies within Rhondda Cynon Taf county borough, an upland area that forms part of the northern rim of the South Wales coalfield.

The site sits on elevated ground. The immediate area is characterised by a mix of rough pasture and moorland vegetation, typical of upland South Wales.

The PDS comprises rough, unimproved agricultural land west of Mount Road. The survey area is centred on OS coordinates 291200 207000; the full extent of the option area covers ~13ha. The northern and eastern extents of the site comprise inaccessible areas of marshland; this leaves a potential survey area measuring ~8ha, which incorporates most of the development area (Plate 2).

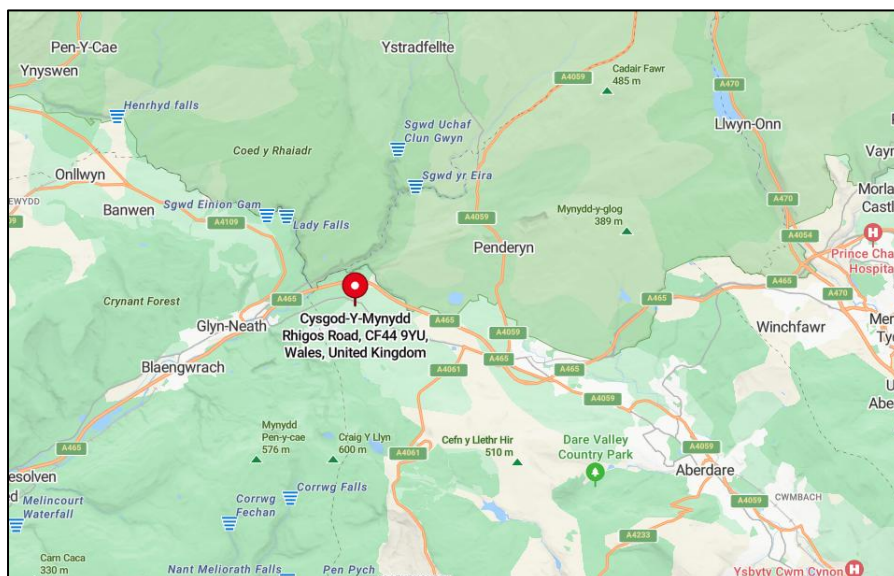


Plate 1: Site location.

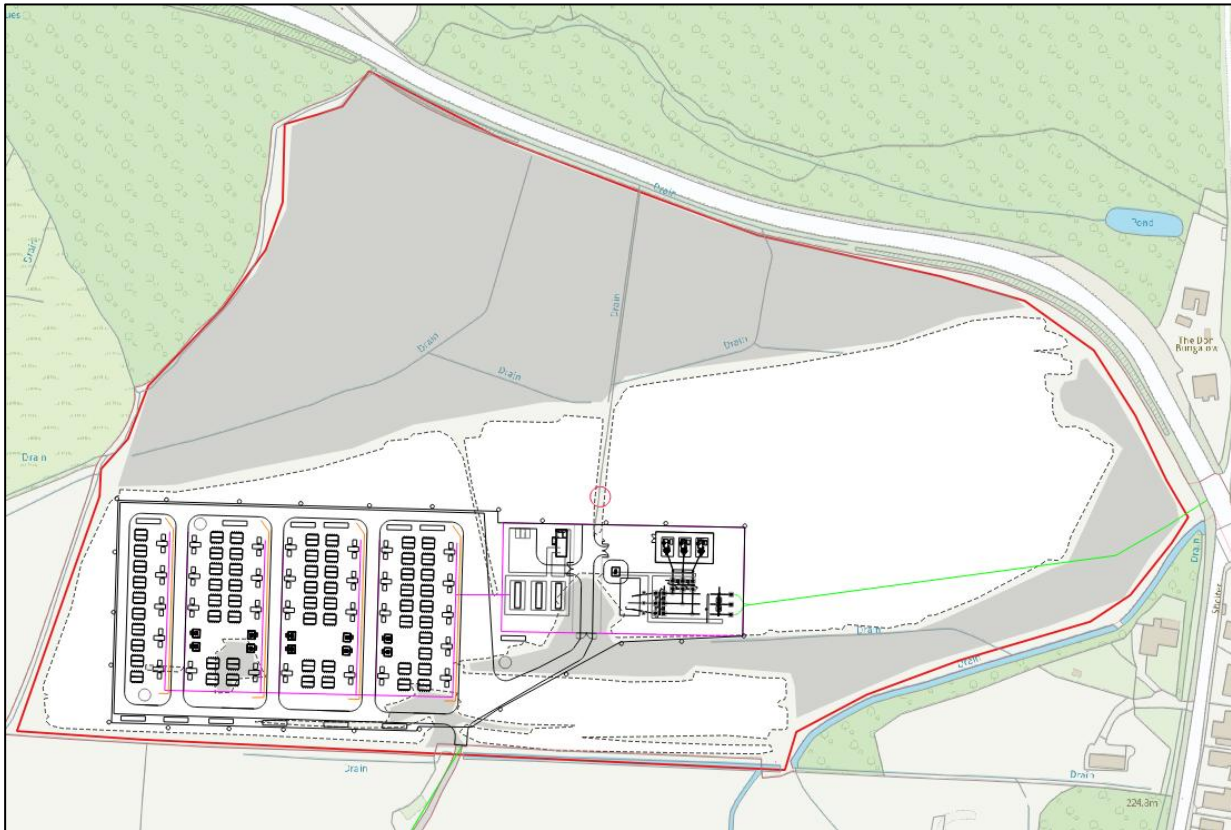


Plate 2: Detail of the site and survey area.

2.2 Geological setting

2.2.1 Solid Geology

The bedrock geology at the site consists of mudstones of the Lower Coal Measures Formation of Upper Carboniferous (Westphalian) age. This formation is characterised by dark grey mudstones with subordinate sandstones and coal seams.

Mudstone has a moderate magnetic susceptibility - stronger than sandstone - which varies depending on its mineral content. Coal seams within the mudstone can create strong magnetic signals that might hide fainter archaeological features. Archaeological features cut into clay-rich mudstone can develop enhanced magnetic susceptibility through pedogenic processes.

2.2.2 Superficial Geology

The superficial geology primarily consists of glacial till (boulder clay) deposits, and these are restricted to the lower ground in the south and east of the site. These deposits were laid down during the Devensian glaciation (around 33,000 to 11,300 years ago). The till typically consists of a poorly sorted mixture of clay, sand, gravel and boulders derived from the local bedrock and materials transported by the ice from further north. Peat is present in the far south of the site.

Till deposits can be magnetically noisy due to their heterogeneous nature and the presence of magnetically enhanced rocks transported from elsewhere. The varied composition of the till, including clay, sand, gravel and boulders, can create magnetic responses that might be difficult to distinguish from archaeological features. Peat deposits typically produce minimal magnetic response, as waterlogged environments normally inhibit the development of magnetically susceptible materials.

2.2.3 Soil Type

Soilscape 19 - "Slowly permeable wet very acid upland soils with a peaty surface". The soil's moderate magnetic susceptibility and calcareous content should provide reasonable contrast for detecting buried archaeological features. However, the slow permeability and potential for periodic waterlogging could introduce challenges, as fluctuations in soil moisture can lead to inconsistencies and noise in the magnetic data. Additionally, the homogeneous, fine-grained texture of the loamy and clayey soils may result in more diffuse magnetic anomalies being detected.

2.3 Topography

The site's topography is a broadly E-W oriented ridge (Plate 3). The top of the ridge forms a plateau that drops steeply to the north and more gently to the east. These areas are typically waterlogged and marshy.

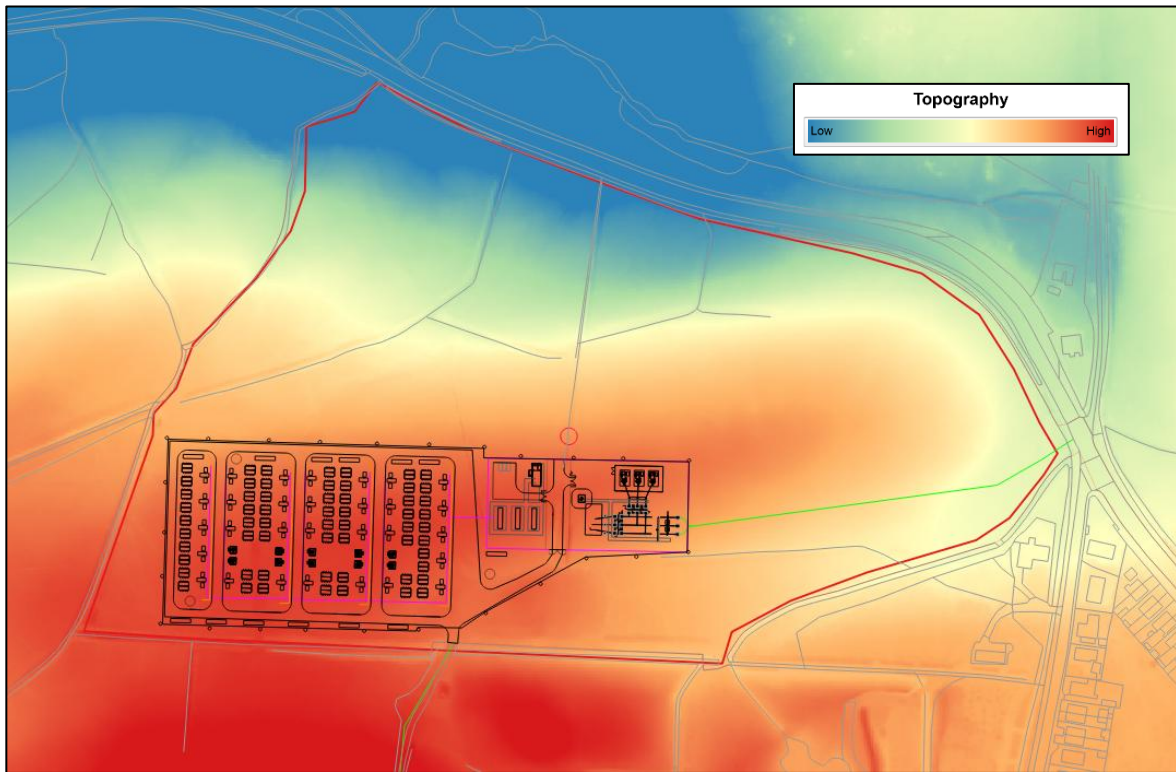


Plate 3: *Topography of the site and surrounding area*

2.4 Archaeological setting

The area around Cefn Rhigos demonstrates evidence of human activity spanning from the Mesolithic period onwards. The earliest evidence comes from Mesolithic flint assemblages within 3km of the site at Rhigos (SN 922 029), including microliths, scrapers, cores and blades. Additional Mesolithic finds within 3km include a flint microlith from Rhigos (SN 908 035) and finds at Pont Walby (SN 895 035).

Bronze Age activity is evidenced through both finds and monuments. Bronze Age artefacts have been found at Rhigos (SN 920 050), just 1.4km from the site. Several Bronze Age barrows cluster in the uplands 6-8km northwest around Penderyn, with over 20 recorded burial monuments indicating significant funerary activity in this period.

Iron Age settlement is represented by several defended sites within the 10km radius, including a hillfort with a single defensive bank at Glyn Neath, Pont Walby (SN 885 068) 2.6km to the northeast, and the Craigydinas hillfort at Penderyn (SN 915 081) just 2.2km to the northwest. Additional Iron Age settlement evidence has been found at Hirwaun, around 4km from the site.

Roman period activity is attested by finds at Rhigos (SN 920 050), 1.4km southwest of the site. Evidence of Roman military infrastructure includes fortlets at Seven Sisters and Abergarwed within a 10km radius, connected by Roman roads.

The medieval landscape within 10km of the site shows extensive settlement evidence, with deserted medieval settlements recorded at Rhigos (SN 932 042), Pont Walby (SN 897 044), and Penderyn (SN 9194 0814). These settlements, all within 3-4km of the site, suggest a well-established medieval farming landscape.

Post-medieval activity within the 10km radius is primarily represented by industrial sites at Hirwaun (SN 958 058), about 5km from the site, reflecting the area's later industrial development.

This concentration of archaeological sites indicates continuous human occupation around Cefn Rhigos from the Mesolithic period onwards, with particularly intensive activity during the Bronze Age and medieval periods.

2.5 Survey objectives

The primary objective of the geophysical survey is to locate and describe any detectable archaeological features present. The survey will provide context and insight as a standalone document and facilitate any subsequent fieldwork phase by indicating the detected features' location, character, extent, and potential significance.

The geophysical survey results will inform any subsequent archaeological assessment. Therefore, it is being conducted before the other archaeological evaluations.

2.6 Quality control

The geophysical data were collected per standard operating procedures outlined by the instrument manufacturer and TerraDat company policy. All services and reports are undertaken to the highest standards to BS 5930:2015 (site investigation) and meet the standard required by The Chartered Institute for Archaeologists' Standard and Guidance for Archaeological Geophysical Survey (2014).

On completion of the survey, the data were downloaded from the survey instrument onto a computer and backed up appropriately. The acquired data set was initially checked for errors that may be caused by instrument noise, low batteries, positional discrepancies, etc., and any field notes were either written up or incorporated in the initial data processing stage. The data set was then processed using standard processing routines. Once processed, the resulting plots are subject to peer review to ensure the integrity of the interpretation. Our quality control standards are BS EN ISO 9001:2015 certified.

3 SURVEY DESCRIPTION

The survey was conducted using magnetic gradiometry. The results are presented as interpreted data plans indicating identified anomalous features' location and physical characteristics and a text description.

3.1 Topographic survey/grid layout

The *SENSYS MAGNETO MXV3* data acquisition is controlled by proprietary software *MONMX*, which provides a real-time graphical display of ground coverage based on the RTK GPS positioning system mounted on the trailer. Survey traverses are acquired to provide as little overlap between traverses as possible while minimising any gaps between the traverses. Survey traverses are driven as straight as is reasonably practicable until the entire field is covered, after which 'headland' files are acquired at the field edges to ensure maximum coverage.

3.2 Magnetic survey

Magnetic surveys exploit the subtle deviation in the Earth's magnetic field caused by objects/materials of variable magnetic properties in the subsurface. These properties include ferromagnetism, remanent magnetism, and magnetic susceptibility. In an archaeological setting, these tend to be buried ferrous objects, burnt materials, or the disturbance or accumulation of naturally occurring ferrous minerals within the soil. The recorded data value is the magnetic gradient (the difference in the magnetic field strength recorded by two vertically separated fluxgate magnetometers).

A plan image showing the variation in the magnetic gradient of the site survey area is produced. Based on the recorded magnetic variation, it is possible to identify buried archaeological features such as walls, hearths, kilns, ditches, and pits.

3.2.1 Magnetic survey - field activity

The magnetic gradiometry data were acquired using a multi-sensor array (8 fluxgate gradiometer probes installed at 0.5m sensor separation) mounted on a specialist modular (*Sensys Magneto MXV3*; Plate 4). Network-corrected RTK GPS provides real-time GPS positioning. The trailer is towed across the survey area behind an ATV at speeds of <15 km/h. This system allows for the acquisition of 0.5m horizontal resolution gradiometry data within a 3.5m wide swathe. The data were acquired at a rate of 200Hz, nominally providing data at 0.025m intervals along each traverse. This approach enhances resolution (double that of a

conventional hand-held instrument in both x and y directions) and acquisition rate; However, a trade-off can be a poorer signal-to-noise ratio.



Plate 4: John Deer Gator and Sensys Magneto MXV3 (Library photo).

3.2.2 Magnetic survey - data processing

The gradiometry data were acquired using *SENSYS* proprietary software *MONMX*, which produces a data file for each acquired survey line. These files are compiled in *DLMGPS*, which associates each gradiometry data point with a GPS coordinate, calculated based on the location of each sensor within the array, thus creating a single swathe of gradiometry data up to 3.5m wide. The software applies a constant median filter to normalise the data within each swathe; the data are then exported as raw ASCII files.

The ASCII files output from *DLMGPS* were further processed using TerraDat proprietary software *MagMerge* (Plate 5) to remove poor-quality data (sensor drop-outs/data spikes,

etc/overlapping data.) and apply 50Hz and rolling median filters. The 50Hz filter removes artefacts principally associated with electrical power lines, while the median filter equalises the background data across the swathes within a dataset, removing any apparent striping between them. Plate 6 shows an example of raw data alongside filtered data. Table 1 details the processing steps that are applied to the ASCII data.

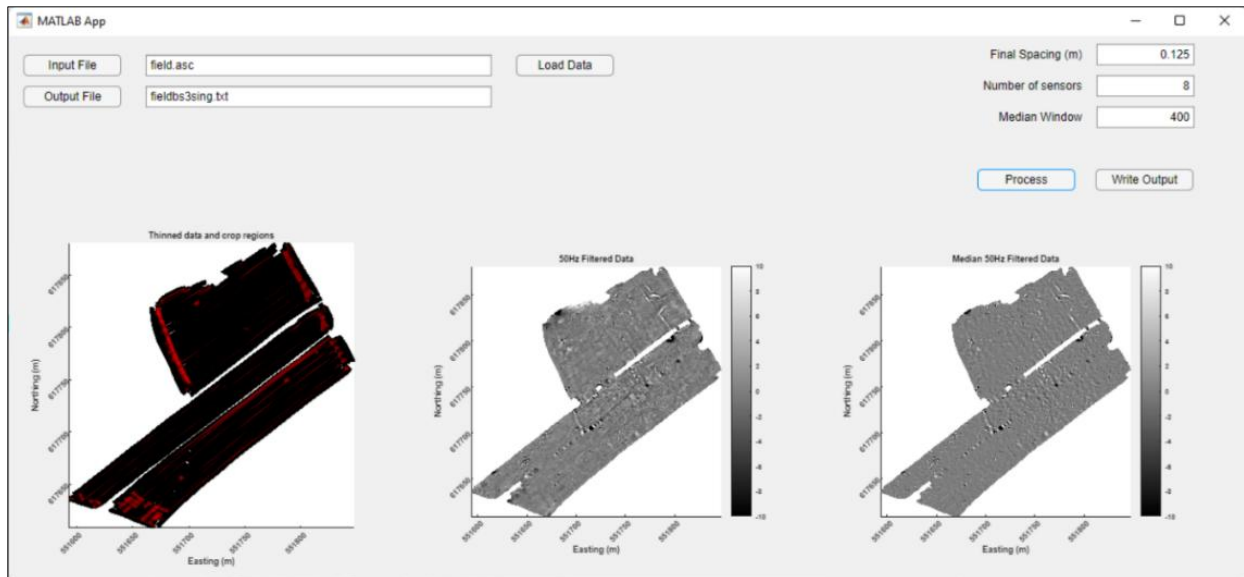


Plate 5: TerraDat proprietary software MagMerge

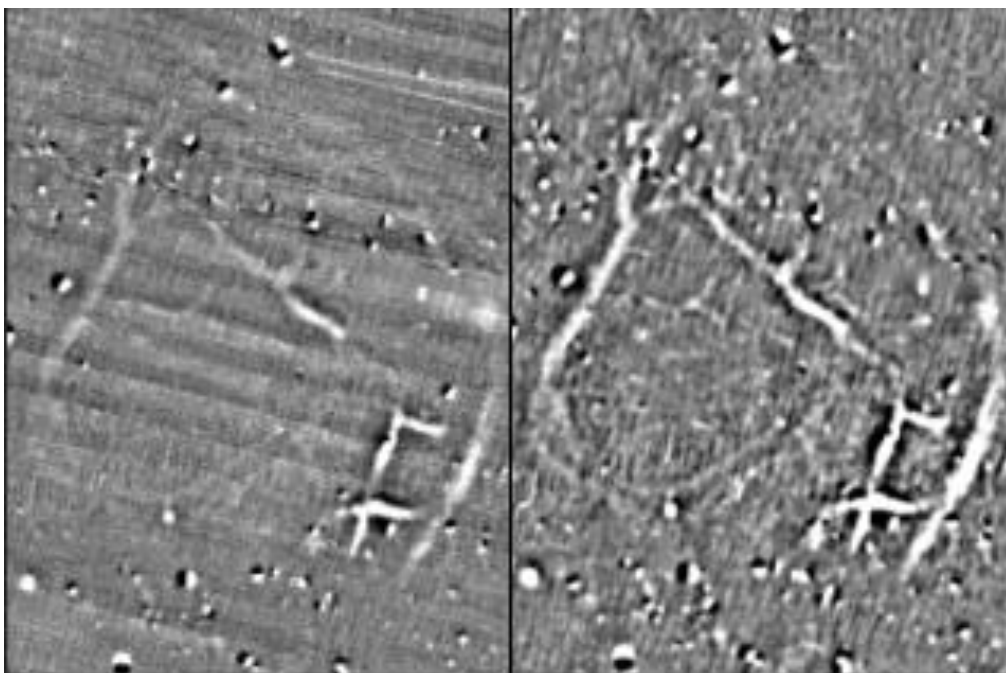


Plate 6: Raw data (left) and filtered data (right)

Processing Step	Description
Raw data input	Raw data (.asc) file is imported, and X,Y,Z,gradient,Time_stamp,sensor columns are retained. All other columns are removed.
Truncate Time_Stamp	Alphanumeric Time_stamp variable is truncated to the last digits (e.g. L1_20221007-095821_GZ.prm becomes 95821) to create unique IDs for each line.
Create line_number	Variable 'line_number' (i.e. 1 to #lines) is created by identifying all unique 'Time_stamp' values.
Rolling median	The median filter is calculated per line, per sensor, on values within $\pm 20\text{nT}$ and removed from the gradient to create a new 'GM' column. The rolling median filter has a window length of 400 data points centred on the input value. Therefore, the first and last 200 data points do not have sufficient information to calculate the median. In these cases, the first value calculated is applied back to the start of the line, and the last value calculated is filled forward to the end of the line. In practical terms, the median window length is equivalent to 10m of data acquisition.
Filter 50Hz Noise	50Hz noise from electrical utilities is removed through wavelet analysis, signal decomposition, and a 50Hz Bandstop filter. Both methods yield similar results. Multiple combinations of median and 50Hz filters are created (i.e. G50, G50M, G50BS and G50BSM) for comparison.
Calculate Mean Spacing	Mean along-track spacing is calculated.
Thin data	Data are thinned to specified output resolution using the calculated mean spacing
Crop overlapping data	Calculate bounding polygons around each line of data. Remove data located within reverse-ordered overlapping polygons.
Display Data	Plot thinned data and cropped areas, plot 50Hz filtered data, plot median filtered data.
Write output file	Write output file containing thinned data with X,Y,Z, gradient,Time_stamp,sensor,Gm,G50,G50M,linenum,G50BS,G50BSM.
Write output GPS	Write output X,Y,Z GPS file using centre (actual GPS) data.

Table 1: Processing steps applied to the raw magnetic gradiometry data.

The magnetic gradiometry data is output as raw and filtered 'XYZ' files in .CSV format. The height data from the GPS is also output as an approximately 3m x 0.125m resolution DTM of the Site. These files are gridded in Oasis Montaj, using minimum curvature gridding and a grid cell size of 0.125m. Once the data is gridded and an appropriate colour scale applied, the data is exported as high-resolution GeoTiff images (900 DPI) before being imported into the open-source GIS software qGIS. Features of interest are then digitised to produce summary archaeological interpretation plans. These are integrated with the DTM to allow consideration of any identified archaeological features within the site's topography. Final figures are created in CorelDraw.

4 RESULTS AND DISCUSSION

The final processed magnetic gradiometry data quality is good. There is an issue with the persistence of 'tank-tracking' (narrow longitudinal oscillations in background values between ± 1 nT) due to the slight bobbing motion of the cart and a few holes/gaps in the data where adjacent traverses have not overlapped correctly or due to obstructions/poor site conditions.

The data are presented as a grey-scaled plot exhibiting variations in the intensity of the magnetic gradient across the survey area at a data scale of ± 4 nT. The results are provided at a 1:500 scale.

Anomalous geophysical features of interest have been digitised and presented as a summary interpretation plan in Figure 2 and with topography in Figure 3.

A general discussion of the results is provided in section 5.1. A list of figures is provided in Section 4.1. Plate 7 presents a key to be used in conjunction with the interpretive plots.

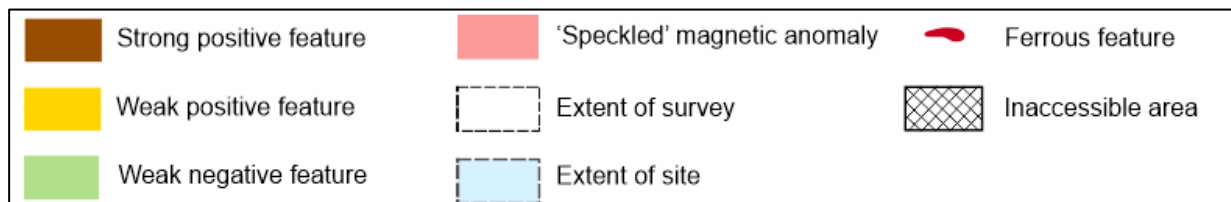


Plate 7: Key to be used in conjunction with the interpretive plots

4.1 List of figures

- Figure 1. Raw magnetic gradiometry data presented at ± 4 nT
- Figure 2. Summary archaeological interpretation
- Figure 3. Summary archaeological interpretation with topography

4.2 Magnetic gradiometry

Magnetic gradiometry is a technique that measures the vertical gradient of the Earth's magnetic field using two sensors positioned one above the other, typically 1.0m apart. This approach developed from the earlier magnetometry technique, which measured the absolute strength of the Earth's magnetic field using a single sensor. Magnetic gradiometry can free the survey from the need for base-station measurements to compensate for diurnal variations in the Earth's magnetic field.

The identified magnetic anomalies (i.e., areas with a magnetic gradient that deviates from the typical site background) may be influenced by one of three main magnetic properties:

1. **Ferromagnetism:** This is the magnetism exhibited by ferrous metal objects.
2. **Remanent magnetism:** This is a permanent sympathetic magnetic field acquired during the cooling of a hot object, commonly seen in fixed archaeological features like hearths and portable materials such as ceramic building materials (CBM).
3. **Magnetic susceptibility** ([MS]): This is a measure of the temporary sympathetic magnetic field generated by a body in an ambient field and is the most important property for archaeological magnetic gradiometry. Typically, weathering elevates the magnetic susceptibility, so soils have a higher MS than their parent rock. Anthropogenic processes, particularly heating, may also enhance MS. As a result, the fills of archaeological cut features often show a higher magnetic susceptibility than the substrate into which they are cut, appearing as positive anomalies. However, exceptions exist, such as when a cut feature is filled with low-susceptibility stone. For structures built of stone, there is typically a stronger contrast between the lower MS stonework and the higher MS occupation deposits. This means that stone walls, drains, and similar features usually show up as negative magnetic anomalies.

Ferrous materials often strongly influence the magnetic gradient, but only over a limited spatial extent. These anomalies typically show strong negative and positive components, appearing as small black/white dots on the plots. Accumulations of iron objects may generate a speckled appearance – typical, for example, of the sites of former wire fences. The remanent magnetic fields of CBM can also produce speckled textures, with brick rubble appearing similar to a spread of ferrous debris but with lower-magnitude 'spikes'.

5 GEOPHYSICAL INTERPRETATION AND DISCUSSION

The survey area shows no certain archaeological features. The features that have been identified are generally barely above the background variation in the magnetic susceptibility of the natural geology and may well only represent these natural variations.

There are several lengths of diffuse positive linear anomaly located across the central portion of the site [a]; these are located away from the low central ridge of the site and are oriented perpendicular to it, which may suggest that they relate to historical drainage.

Scattered across the site are numerous isolated weak and strong positive monopolar anomalies [b]; these are often associated with pits that can be archaeological in origin. There is a noticeable increase in the east of the site where the BGS map till deposits, and it may be that these anomalies reflect boulders exhibiting a relatively increased magnetic susceptibility within the till. Notable examples occur at [290953, 206923], [290953, 206923], [290953, 206923] and [291277, 206927]

In the far northeastern corner of the site is a strong linear feature derived from sigmoidal lengths of dipolar magnetic anomaly [c]; this occurs close and parallel to a palaeochannel suggested by the regional LiDAR survey of the area and is likely to indicate the infilling of a tributary to this channel.

The most striking features mapped are the regular zones of 'speckled' magnetic signal across the south of the site [d]. This response indicates the presence of a broad spread of material that exhibits a dipolar response; this is likely to indicate the imposition of mixed materials, most likely a modern dump of hardcore.

Disclaimer

This report represents an opinionated interpretation of the geophysical data. It is intended to guide follow-up invasive investigation. Features that do not produce measurable geophysical anomalies or are hidden by other features may remain undetected. Geophysical surveys complement invasive/destructive methods and provide a tool for investigating the subsurface; they do not produce data that can be taken to represent all of the ground conditions found within the surveyed area. Areas not surveyed due to obstructed access or any other reason are excluded from the interpretation.

Appendices

Appendix A: Glossary

A

Aerial imagery: Photographs taken from aircraft or satellites used for archaeological prospection

Alluvial deposits: Sediments deposited by flowing water, typically consisting of sand, silt, and gravel

Anomaly: A deviation from the expected or background reading in geophysical data

Anthropogenic: Caused or produced by human activities

Archaeological Magnetic Gradiometry: A geophysical survey technique that measures variations in the Earth's magnetic field to detect buried archaeological features

Artefact (archaeological): Any object made, modified, or used by humans

B

Background signal: The typical or average geophysical reading for an area

Baseline: Reference measurement used to calibrate survey results

Bedrock: Solid rock beneath surface materials

Bronze Age: Archaeological period (circa 2500-500 BCE)

BS EN ISO 9001:2015: International standard for quality management systems

Buffer zone: Area surrounding a feature where effects may still be detected

C

CBM (Ceramic Building Materials): Archaeological term for human-made clay items like bricks, tiles, etc.

Cut feature: An archaeological feature that has been dug into the ground, such as a ditch or pit

Coordinates (ITM): Ireland's official coordinate system for mapping and spatial referencing

D

Data acquisition: Process of collecting geophysical measurements

Data processing: Methods used to clean and enhance raw survey data

Diurnal variations: Daily changes in the Earth's magnetic field

DTM (Digital Terrain Model): Digital representation of ground surface topography

Deep ploughing: Agricultural practice that disturbs soil at greater depths than conventional ploughing

E

Engineered ground: Soil that has been artificially modified or disturbed

Erratics: Rock fragments transported by glacial ice

F

Feature: Any distinct archaeological or geological formation

Ferromagnetism: Strong form of magnetism associated with iron and similar materials

Field boundary: Physical division between different areas of land

Fluxgate gradiometer: Device used to measure magnetic field gradients

Formation: A fundamental unit in stratigraphy representing a distinct layer of rock

G

Geological setting: Description of the types, ages, and arrangements of rocks in an area

GIS (Geographic Information System): Software for analysing spatial data

Glacio-fluvial: Related to meltwater streams from glaciers

GPS (Global Positioning System): Satellite-based navigation system

Gradiometry: Measurement of the rate of change of a field with distance

Grid layout: Systematic arrangement of survey areas

GSI: Geological Survey of Ireland

H

Halo effect: Magnetic distortion extending beyond the physical boundaries of a feature

Head deposits: Weathered material moved downslope by gravity

Heritage asset: Any element of the historic environment with archaeological significance

I

Inlier: Older rocks surrounded by younger ones

Interference: Unwanted signals that affect survey readings

Interpretive plot: Visual representation of processed survey data

L

LiDAR: Light Detection and Ranging; remote sensing method using laser light

Lineation: Linear pattern or feature in survey data

Lithology: Physical characteristics of rocks

M

Magnetic gradient: Change in magnetic field strength between two points

Magnetic susceptibility: Measure of how magnetisable a material is

Magnetometry: Study and measurement of magnetic fields

Medieval: Historical period (circa 1100-1500 CE)

Minimum curvature gridding: Mathematical method for interpolating data points

N

Neolithic: Archaeological period (circa 4000-2500 BCE)

Network-corrected RTK GPS: High-precision GPS system with real-time corrections

nT (nanoTesla): Unit of magnetic field strength

Negative anomaly: Reading lower than background values

O

OSI (Ordnance Survey Ireland): Irish national mapping agency

Overlay: Superimposition of different data layers

P

PDS (Proposed Development Site): Area being considered for development

Penannular: Ring-shaped with a gap or opening

Post-medieval: Historical period after 1500 CE

Positive anomaly: Reading higher than background values

R

Raw data: Unprocessed survey measurements

Remanent magnetism: Permanent magnetisation remaining in materials

Resolution: Level of detail in survey data

RTK (Real-Time Kinematic): High-precision satellite navigation technique

S

Signal-to-noise ratio: Measure of desired signal strength compared to background noise

Sites and Monuments Record: Ireland's official system for cataloguing archaeological sites

Stratigraphy: Study of rock layers and layering

Superficial deposits: Geological materials lying on bedrock

Survey traverse: Path followed during data collection

T

Tank-tracking: Pattern of parallel linear anomalies caused by survey vehicle

Topography: Physical features of land surface

Traverse: Linear path followed during the survey

U

Utilities: Modern service infrastructure (pipes, cables, etc.)

V

Viewshed: Area visible from a specific location

Visual interpretation: Analysis of survey results by expert examination

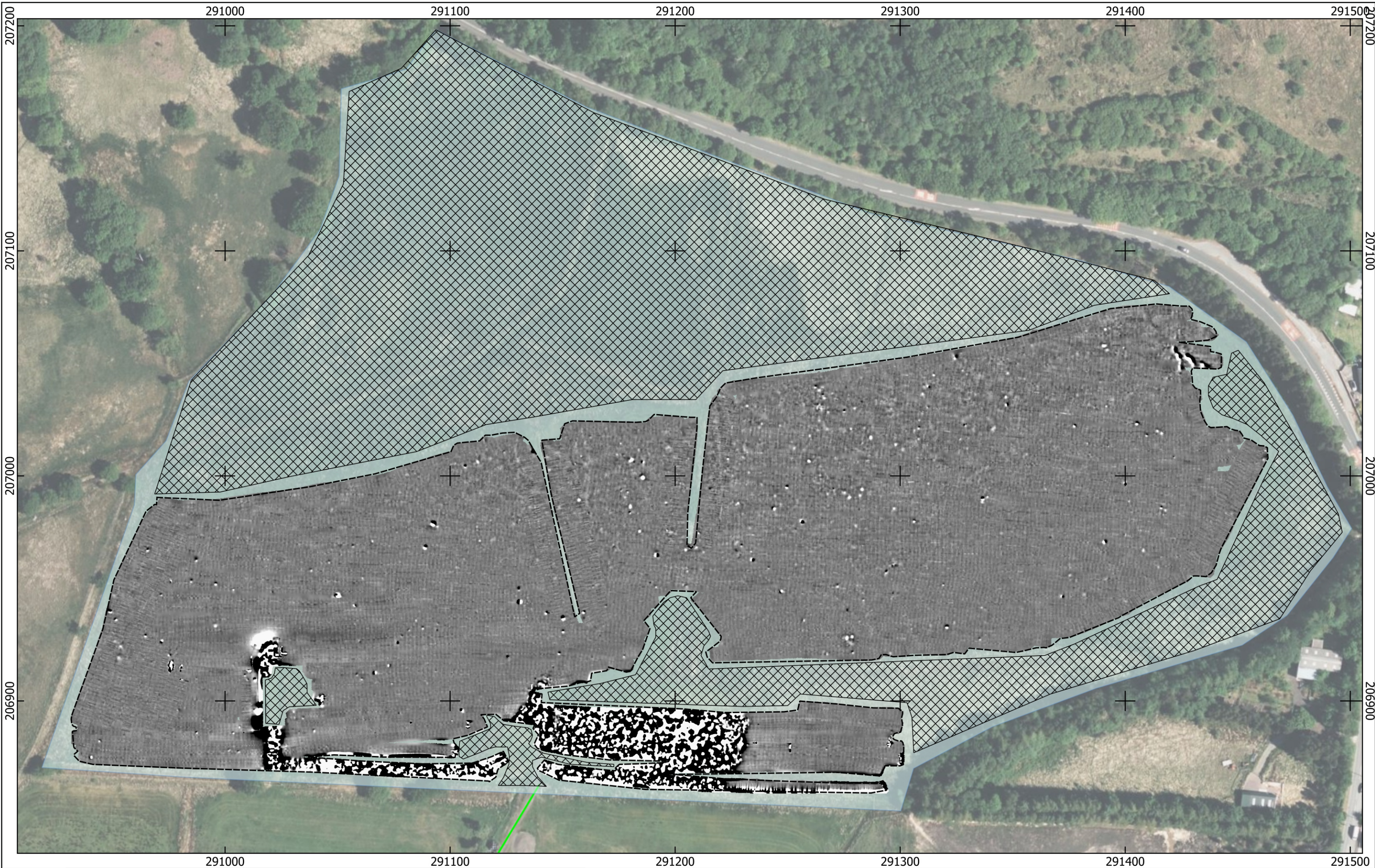
W

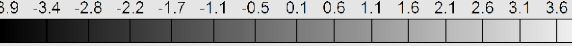
Wavelet analysis: Mathematical method for processing survey data

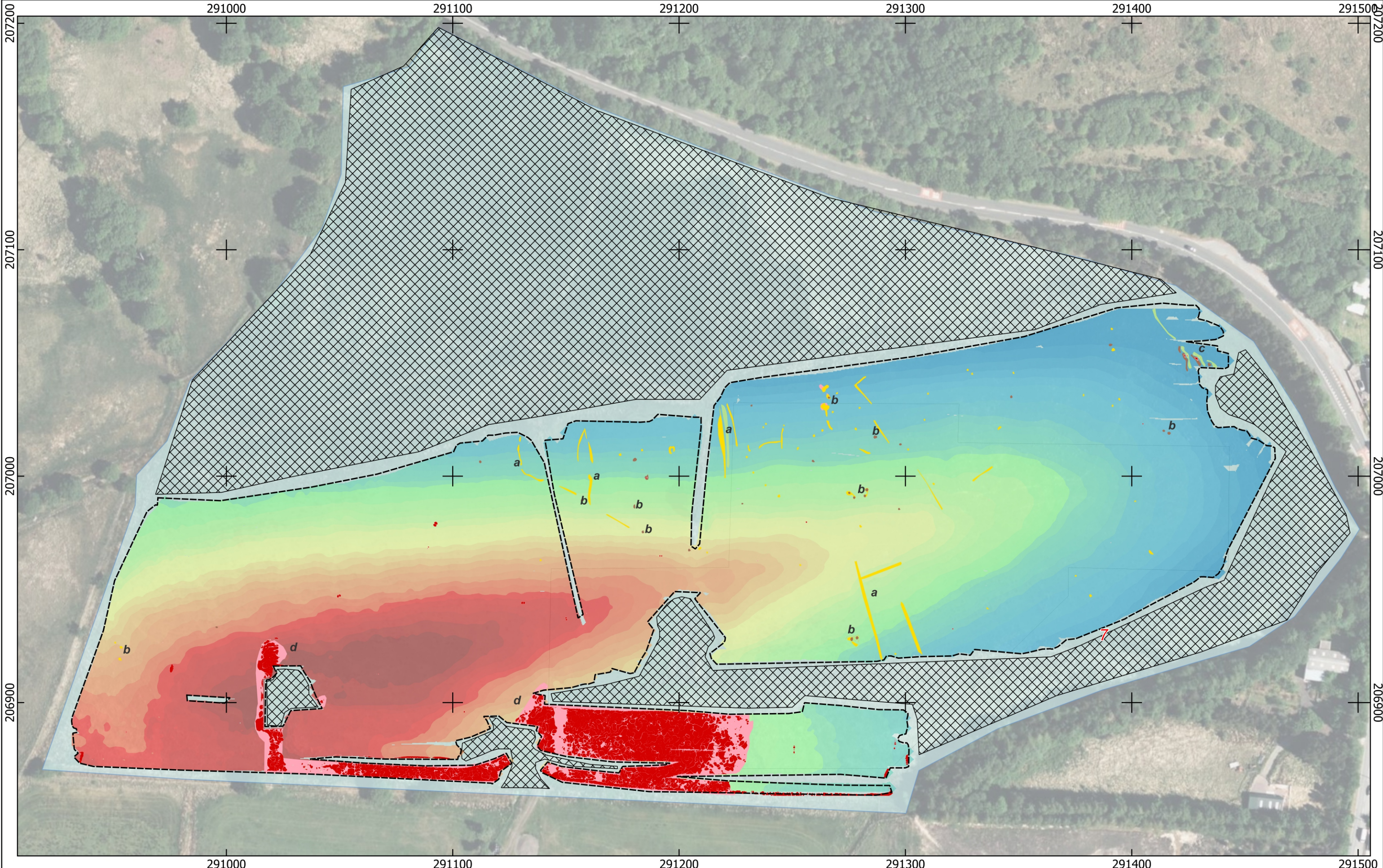
Appendix B: Feature Description Table

Feature Type	Symbol Description	Archaeological Interpretation
MAGNETIC SIGNATURES		
Strong positive feature	Brown fill	Typically indicates thermoremanent features (hearths, kilns, furnaces), filled pits with organic/burnt material
Weak positive feature	Yellow fill	Often represents shallow cut features (ditches, pits, postholes), ploughed-out archaeological deposits
Weak negative feature	Light green fill	Usually indicates banks, walls, stone features, or soil displacement
'Speckled' magnetic anomaly	Pink/salmon fill	Areas of magnetic disturbance from modern debris burned material scatter
SURVEY BOUNDARIES		
Extent of survey	Black dashed line	Defines total area covered by geophysical survey
Extent of Site	Light blue dashed line	Indicates site boundary
ARCHAEOLOGICAL FEATURES		
Archaeological Site	Red outline	Area of archaeological interest based on survey evidence
Sites and monuments record	Red diamond	Known archaeological sites recorded in official databases
Possible archaeology	Black curved/shaded line	Potential archaeological features
HISTORICAL LANDSCAPE FEATURES		
Old field boundary	Brown dashed line	Former field boundaries from historical Ordnance Survey maps
Feature on historical AP	Dotted line	Features visible in aerial photographs
ACCESS INFORMATION		
Inaccessible area	Cross-hatched area	Areas where the survey was not possible
ADDITIONAL FEATURES		
Ferrous feature	Red fill	Modern metal objects, pipes, cables, historical metalwork
LIRM	Light blue fill	Lightning-Induced Remanent Magnetisation
Geology	Grey fill/text	Natural variations in bedrock or superficial geology
Agricultural lineation	Green line	Regular plough marks
Probable field drain	Blue line	Subsurface agricultural drainage systems
Pylon	Pink circle	Modern electrical infrastructure

Figures



	Magnetic Gradient nT 	 Extent of site  Inaccessible area	Title: RAW MAGNETIC GRADIOMETRY - +/- 4 nT		 down to earth geophysics Tel: +44 (0) 2920 700127 Web: www.terradat.co.uk Email: web@terradat.co.uk
			CEFN RHIGOS		



	Strong positive feature	'Speckled' magnetic anomaly	Ferrous feature
	Weak positive feature	Extent of survey	Inaccessible area
	Weak negative feature	Extent of site	

Topography

Title: SUMMARY ARCHAEOLOGICAL INTERPRETATION WITH TOPOGRAPHY			Tel: +44 (0) 2920 700127 Web: www.terradat.co.uk Email: web@terradat.co.uk
Project: CEFN RHIGOS			Scale: 1:1500 at A3
			Drawn by/Ref: CB/9139/3 Date: 07/11/2024

FIGURE 3