

# GSB

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## GEOPHYSICAL SURVEY REPORT 2006/59

**AMLWCH  
Anglesey**

**Client:**



## SURVEY RESULTS

2006 / 59 Y Werthyr, Amlwch, Anglesey

### 1. Survey Area

- 1.1 Magnetic survey was carried out using Bartington Grad 601-2 instruments, within three fields totalling 3.8ha. The location of the survey areas is shown in Figure 1, at a scale of 1:2500.
- 1.2 The survey grid was set out by and tied in to the Ordnance Survey (OS) grid by **Dr Henry Chapman** using a Trimble dGPS system.

### 2. Data Processing and Display

- 2.1 The magnetic data have been pre-processed by removing baseline shifts due to zig-zag data collection. Where appropriate, traverses have been corrected for minor misalignments; these are due to variations in walking speed, which are usually a result of ground conditions or topography. Unless stated it should be assumed that no filtering has been undertaken on the datasets collected in this project. The data have been interpolated to improve the quality of the greyscale images.
- 2.2 Figures 2 and 3 show the data as summary greyscales and interpretations, both at a scale of 1:2000.
- 2.3 The results are displayed as XY traces, greyscale images and interpretations, at a scale of 1:500 and can be found on the archive CD at the front of the report. These display formats and the interpretation categories used are discussed in the *Technical Information* section at the end of the text.

### 3. General Considerations and Complicating Factors

- 3.1 Conditions for survey were generally good as most of the areas comprised short pasture and were level. Area 1 contained earthworks, which were steep in places, but these not hinder data collection.
- 3.2 As the site was in the middle of a wind farm, the data have been magnetically disturbed by the location of turbines. These responses will have masked any archaeological anomalies, if present.

### 4. Results of Detailed Survey

#### Area 1

- 4.1 A series of ditches (A) clearly coincide with the enclosure that is partially visible as an earthwork. In the western arm of (A) a gap in the data (B) is evidently an entrance and this was confirmed by excavation.

- 4.2 A number of anomalies (C) can be seen within the enclosure. These are of an archaeological nature and may relate to the same period as the enclosure. However, some may be from a different phase (see following).
- 4.3 To the east of the earthwork enclosure is a second rectilinear arrangement of ditches (D) but on a slightly different alignment to (A). Some of the anomalies (C) could be associated with this enclosure rather than (A).
- 4.4 Curving ditch (E) has the potential of being prehistoric. Its function is unknown as it appears to terminate at (F). A continuation of this feature can not be seen within the data to the east which adds to the difficulty in interpretation.
- 4.5 A number of ditches (G) appear to join with (A) and they may indicate further enclosures, perhaps animal enclosures.
- 4.6 Negative response (H), running on a southwest – northeast alignment could possibly be the remains of a headland or an old field boundary. Supporting this theory are the ploughing trends which appear to stop at this anomaly.
- 4.7 A band of three ditches (I) run on the same alignment as the potential headland (H) but some distance to the south. They could indicate an old trackway or ditches associated with the old field system.
- 4.8 A circular anomaly (J) lies within an area of increased magnetic noise. This coincides with the area where the farmer reportedly removed a number of large stones.
- 4.9 Parallel trends (K) may form yet another enclosure, perhaps for keeping stock.
- 4.10 Archaeological anomalies (L) are strongly magnetic and may indicate burning, or some sort of industrial activity.
- 4.11 A series of potential pits and ditches (M) indicate probable settlement type activity in and around the enclosures.
- 4.12 The location of two wind turbines on the outskirts of the survey area have caused magnetic disturbance (N) in the data. These will have masked any archaeological remains if present, although the ditches already detected do not appear to head into the disturbed areas.
- 4.13 Ferrous anomalies at the edges of the data are caused by a metal fence which was present around the perimeter of the field; smaller anomalies are likely to be due to modern iron debris within the topsoil or on the surface.

### **Areas 2 and 3**

- 4.14 These areas were surveyed as aerial photographs had shown a complex of ditches. However the magnetic data show few responses that coincide with the archaeological features. Linear and curvilinear trends may potentially be archaeological, but they may also be a result of agricultural practices. If, as seems likely, the features visible from the air are associated with animal enclosures then this would account for the lack of magnetic enhancement.
- 4.15 The ferrous response in the south west of Area 2 was caused by a wind turbine in the adjacent field to the west. Other ferrous anomalies are likely to be due to iron debris.

#### Area 4

- 4.16 Curving trends (O) form a ring ditch that coincides with grass-marks observed on the ground. Other trends within the data may have an archaeological origin, however they may also be due to ploughing.
- 4.17 As with the previous areas, small ferrous anomalies are likely to be of a modern date.

### 5. Conclusions

- 5.1 Surprisingly strong magnetic anomalies were recorded throughout much of Area 1. The main earthwork enclosure showed as a very clear response and several other, smaller enclosures were also identified. Additionally a curving anomaly, together with other responses on differing alignments, suggested multi-phased activity on the site. An old headland, evidence of ploughing and possible trackway also pointed to more recent activity on the site, post-dating the main enclosure.
- 5.2 Areas 2 and 3 failed to pinpoint any of the grass-mark features; this was due to a lack of magnetic enhancement which suggested that the enclosures were perhaps used for stock rather than human habitation.
- 5.3 A series of curving trends within Area 4 coincide a ring ditch visible in the grass. Again, the lack of enhancement suggests a non-occupation site.

**Project Co-ordinator:** E Wood  
**Project Assistants:** Dr J Gater, S Hodgson & G Taylor

**Date of Survey:** 29<sup>th</sup> – 31<sup>st</sup> July 2006  
**Date of Report:** 8<sup>th</sup> September 2006

#### References:

- Mower, J 2006 *Proposed Archaeological Evaluation at Rhyd-y-Groes Wind Farm, Anglesey, North Wales*. Unpublished Report.
- SSEW 1983 *Soils of England and Wales. Sheet 2, Wales*. Soil Survey of England and Wales.

## SITE SUMMARY SHEET

2006 / 59 Y Werthyr, Amlwch, Anglesey

NGR: SH 4086 9253

### Location, topography and geology

The site is located approximately 4 miles south of Amlwch, North Anglesey, and is currently occupied by a wind turbine farm. The general topography of the survey areas was flat, whilst one area contained earthworks. Soils of the area belong to the Brickfield 2 (713f) association, formed from a parent of drift from Palaeozoic and Mesozoic sandstone and shale (SSEW, 1983).

### Archaeology (Information taken from Mower, 2006)

The earthworks on the site, known as Y Werthyr, were identified in the 1930's when a survey for the Royal Commission for Ancient and Historical Monuments of Wales (RCAHMW) was conducted. Findings revealed a possible pentagonal enclosure with medieval and later additions. Aerial photographs of fields surrounding Y Werthyr show a complex of ditches and enclosures. Parys Mountain is located a few miles to the east of the site and is one of the earliest copper mines in Britain, worked from 2000BC.

### Aims of Survey

The aims of the survey were to define the earthworks and to locate any detectable archaeology within the vicinity. This work formed part of a wider investigation being carried out by Channel 4's **Time Team**.

### Summary of Results \*

The partially extant earthwork enclosure shows as a very clear magnetic response within Area 1. A number of other ditches have been identified indicating possible multi-phased periods; for example, a curving ditch within the same area could indicate a prehistoric element to the site. The magnetic data within this area is complex and full interpretations of all the responses are difficult. A potential headland has also been noted.

Areas 2 to 4 yielded little evidence for archaeological occupation, even though the aerial photographs showed a complex of cropmarks. The theory for this is that they were animal enclosures, therefore not subject to magnetic enhancement. A faint ring ditch can be seen within Area 4.

Ferrous anomalies within the data are likely to have been produced by modern iron debris within the topsoil or on the surface. Wind turbines have also produced disturbed areas within the data.

**\* It is essential that this summary is read in conjunction with the detailed results of the survey.**

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**Archive CD**

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PROJECT: 2006/59 Amlwch, Anglesey

TITLE: Location of Survey Areas

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 Gradiometer Survey

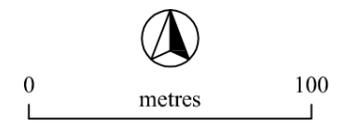


Figure 1

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PROJECT: 2006/59 Amlwch, Anglesey

TITLE: Summary Greyscales

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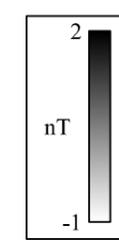
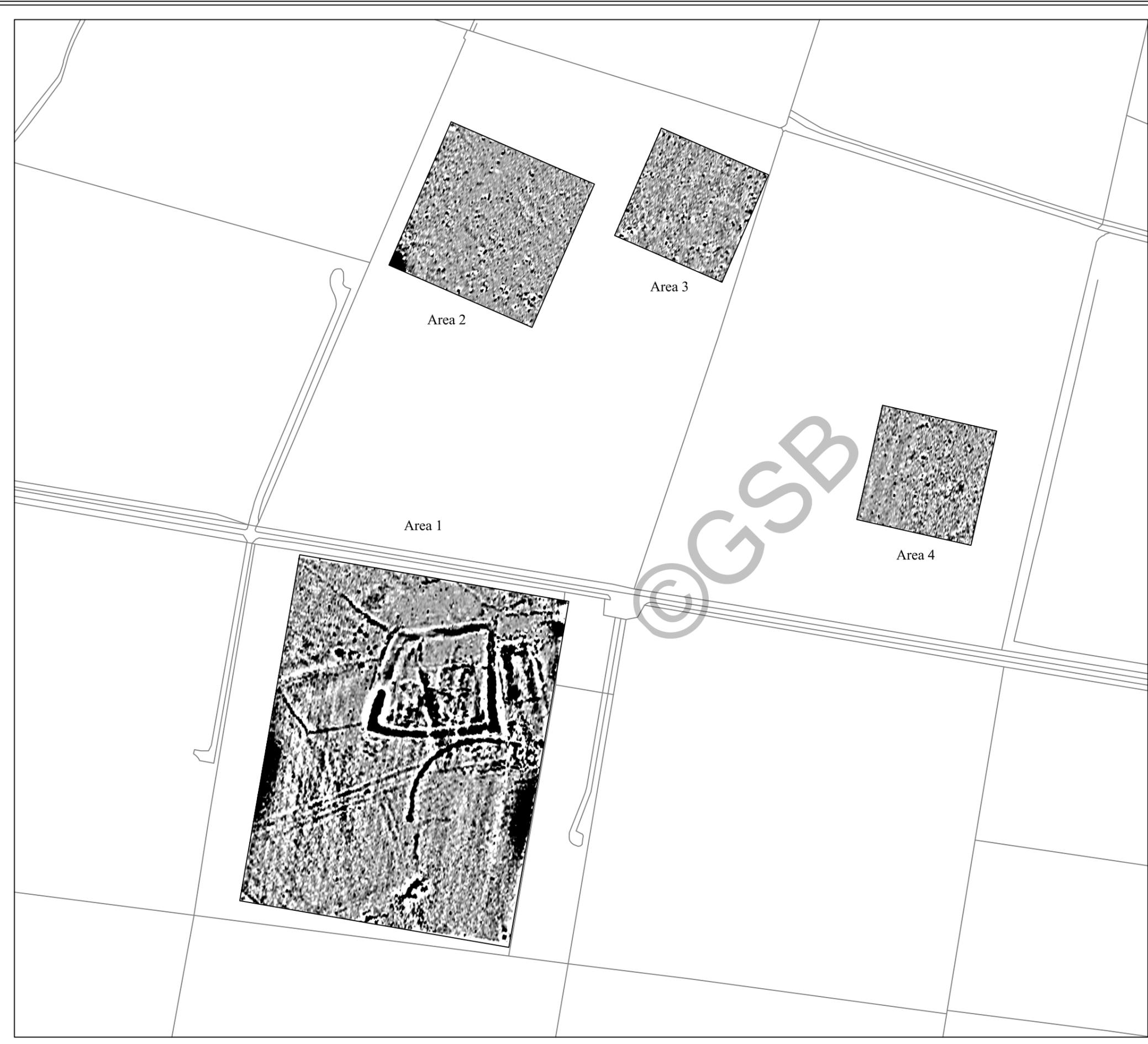


Figure 2

**GSB PROSPECTION Ltd.**

PROJECT: 2006/59 Amlwch, Anglesey

TITLE: Summary Interpretation

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-  Archaeology
-  ?Archaeology
-  ?Archaeology - Negative Response
-  Increased Magnetic Response
-  Trend
-  Ploughing
-  Magnetic Disturbance
-  Ferrous



Figure 3

**Amlwch, Anglesey  
Area 1A**



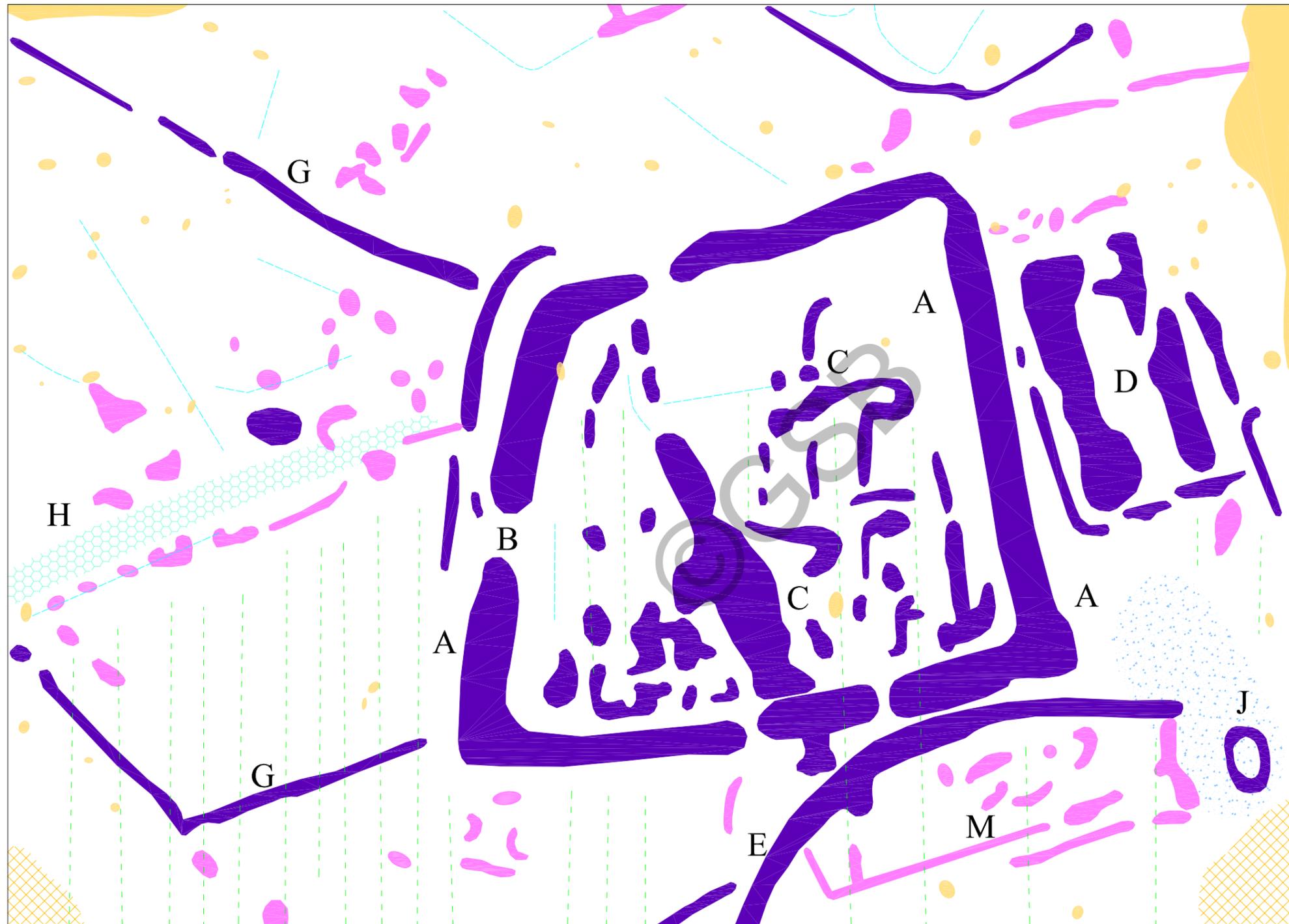
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Amlwch, Anglesey  
Area 1A



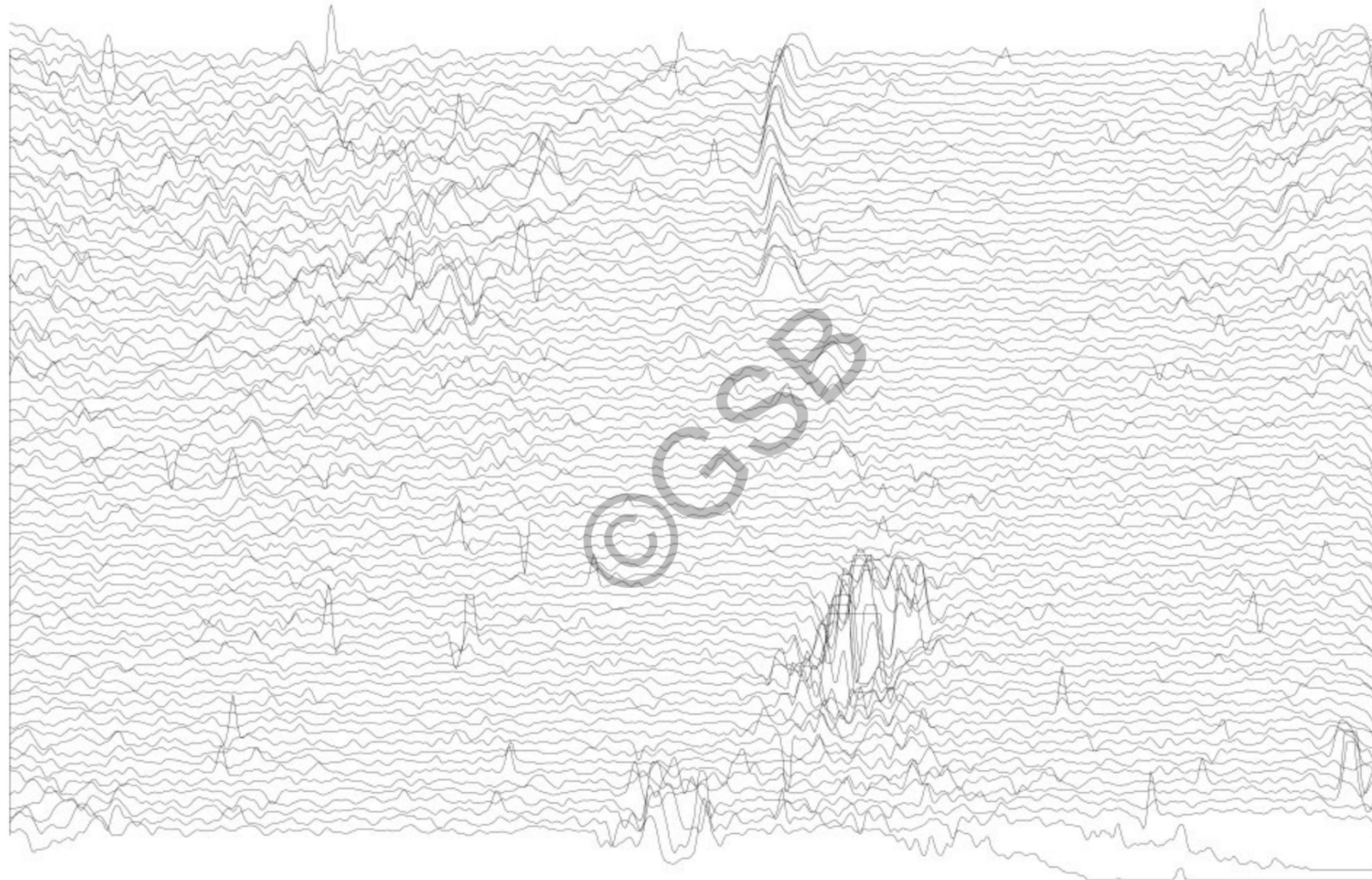
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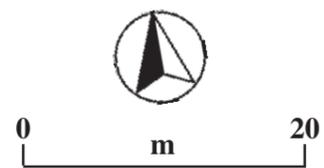
- Archaeology
- ?Archaeology
- ?Archaeology - Negative Response
- Increased Magnetic Response
- Trend
- Ploughing
- Magnetic Disturbance
- Ferrous



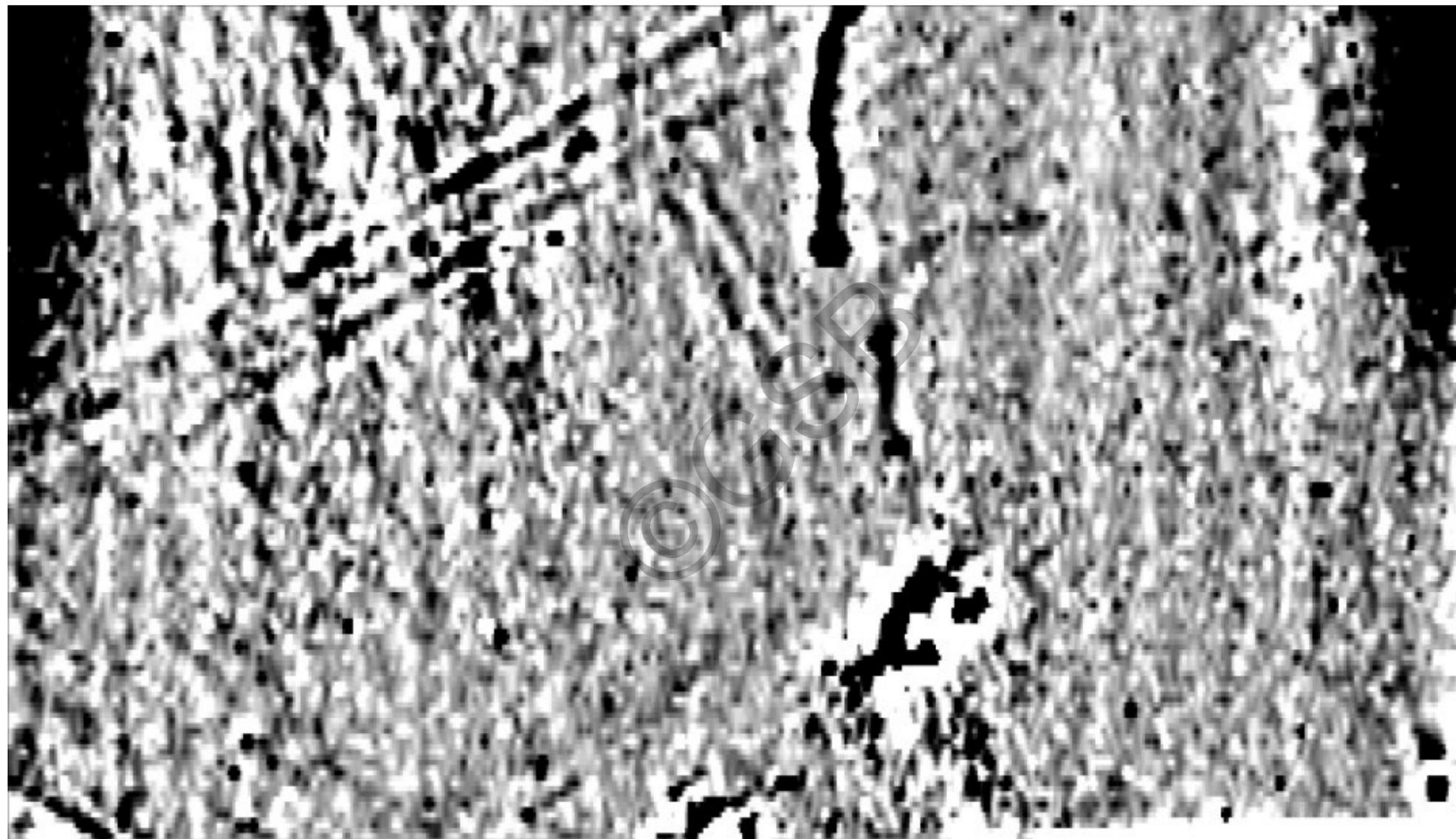
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Area 1B**



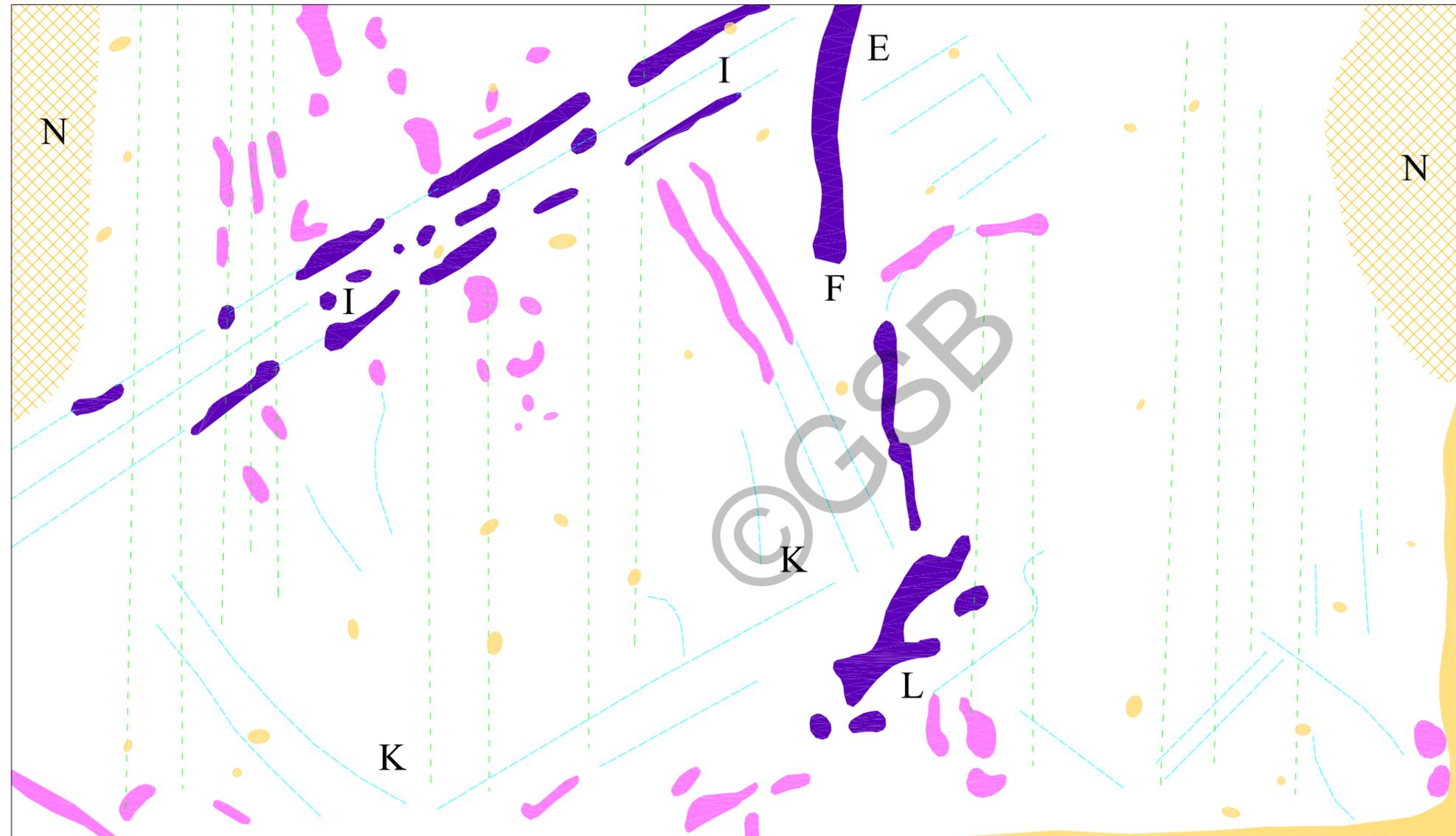
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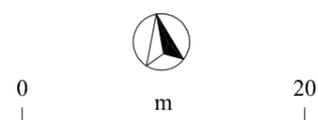
Amlwch, Anglesey  
Area 1B



# Amlwch, Anglesey Area 1B



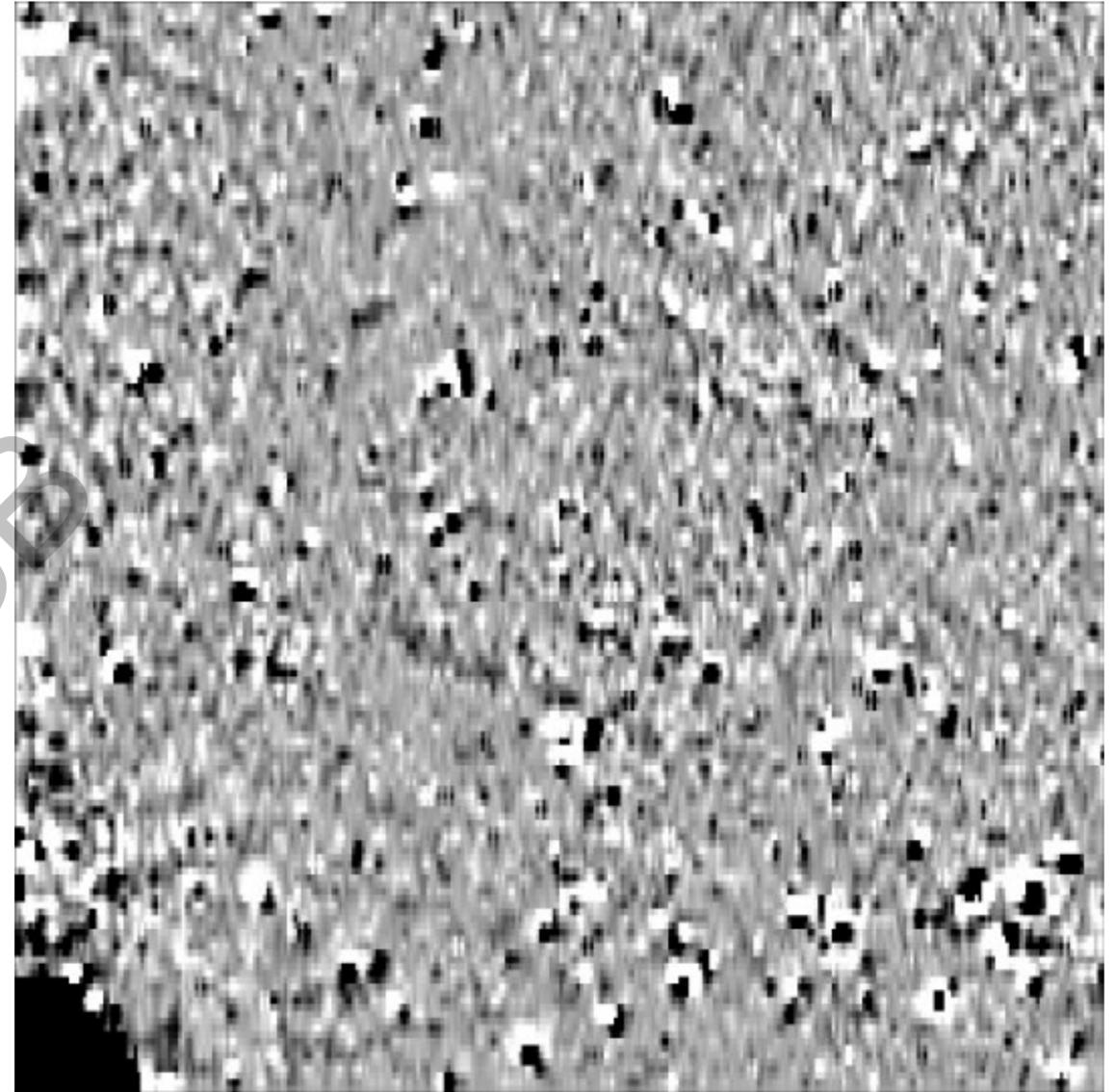
- Archaeology
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- Trend
- Ploughing
- Magnetic Disturbance
- Ferrous



Amlwch, Anglesey  
Area 2



15 nT



# Amlwch, Anglesey Area 2



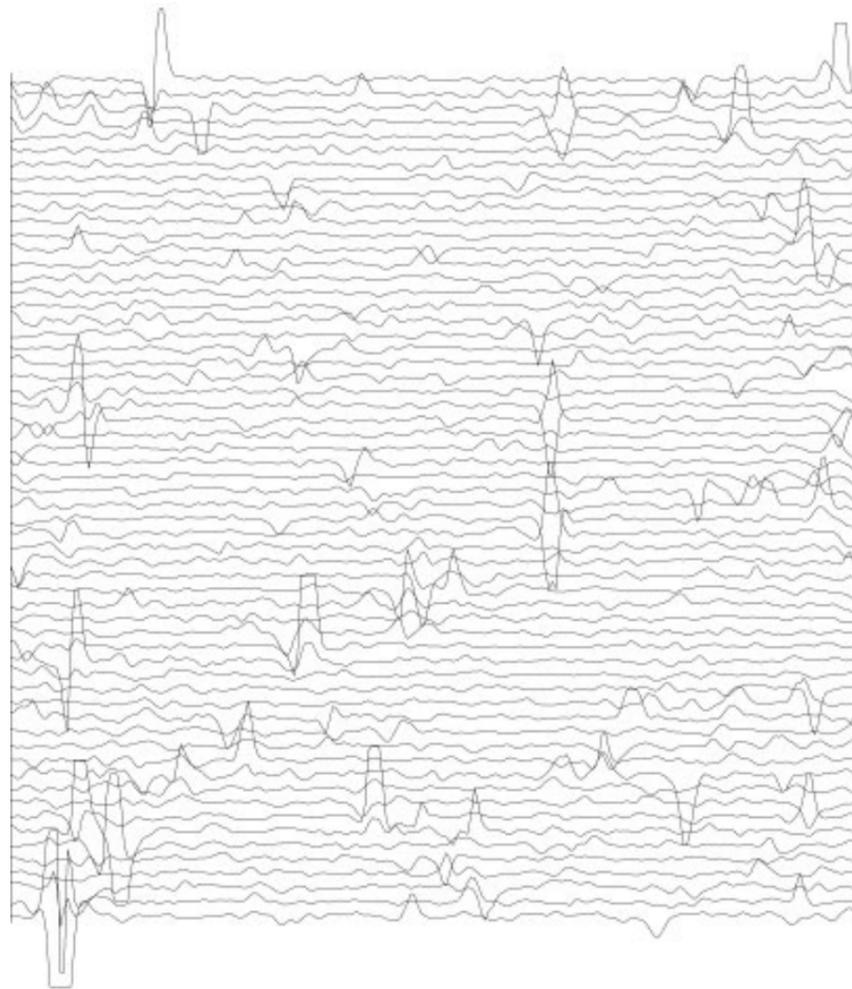
Trend



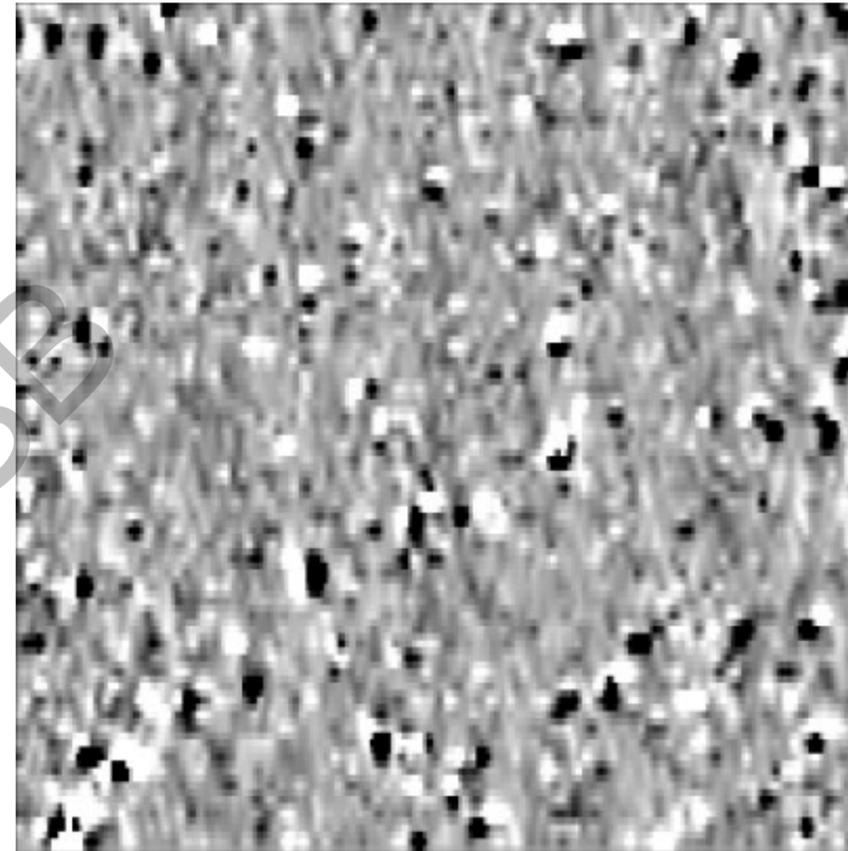
Ferrous



Amlwch, Anglesey  
Area 3



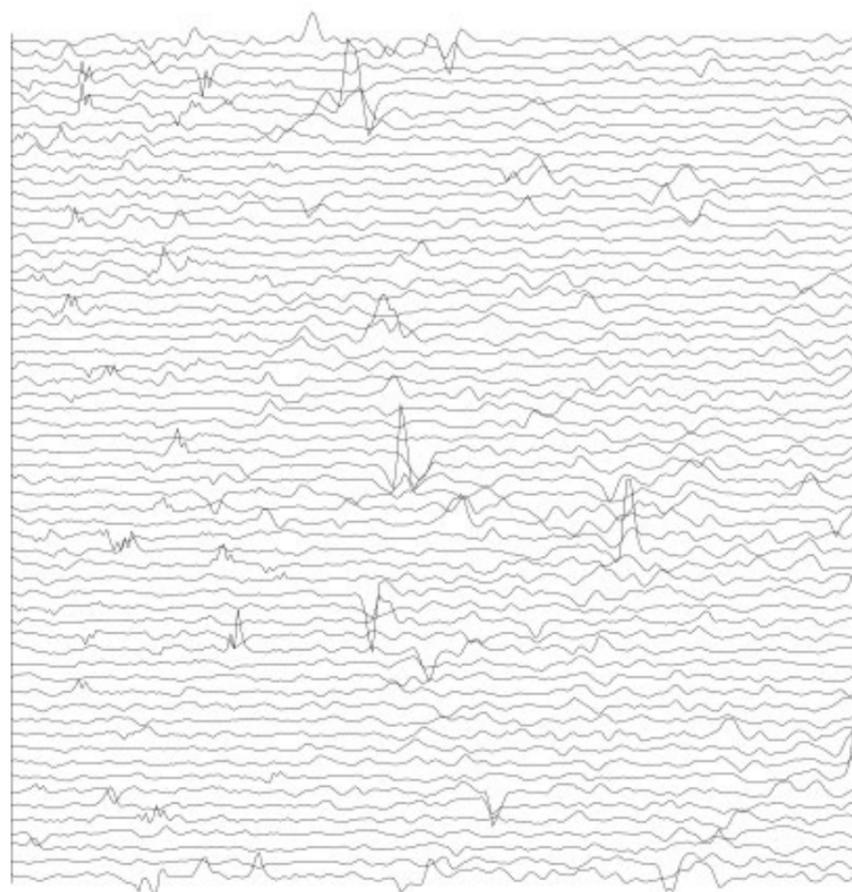
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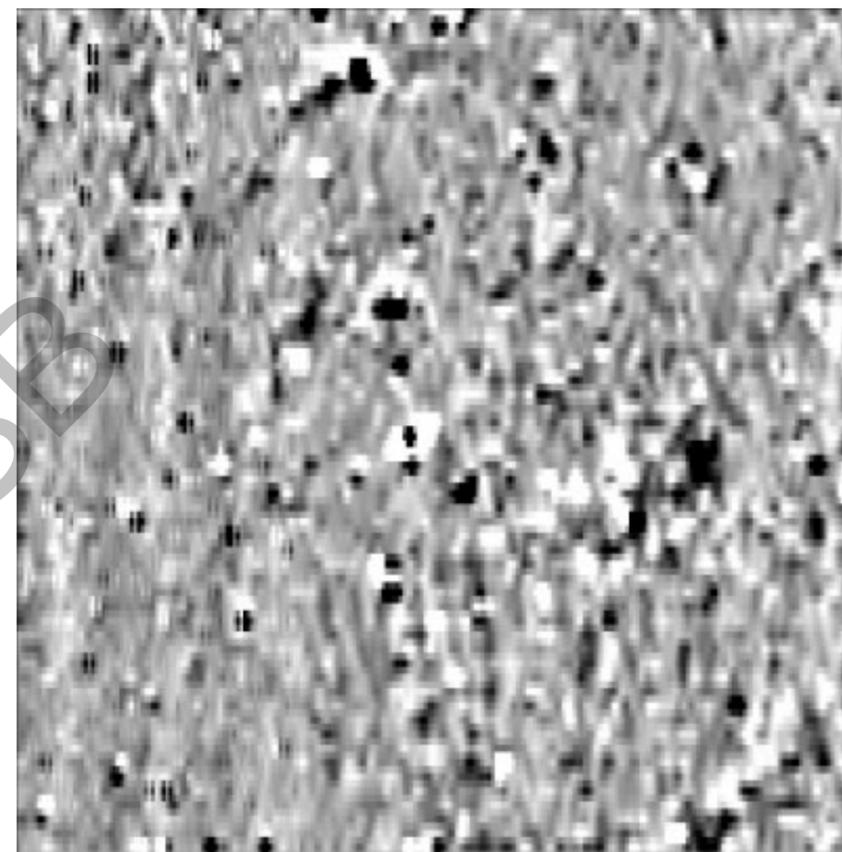
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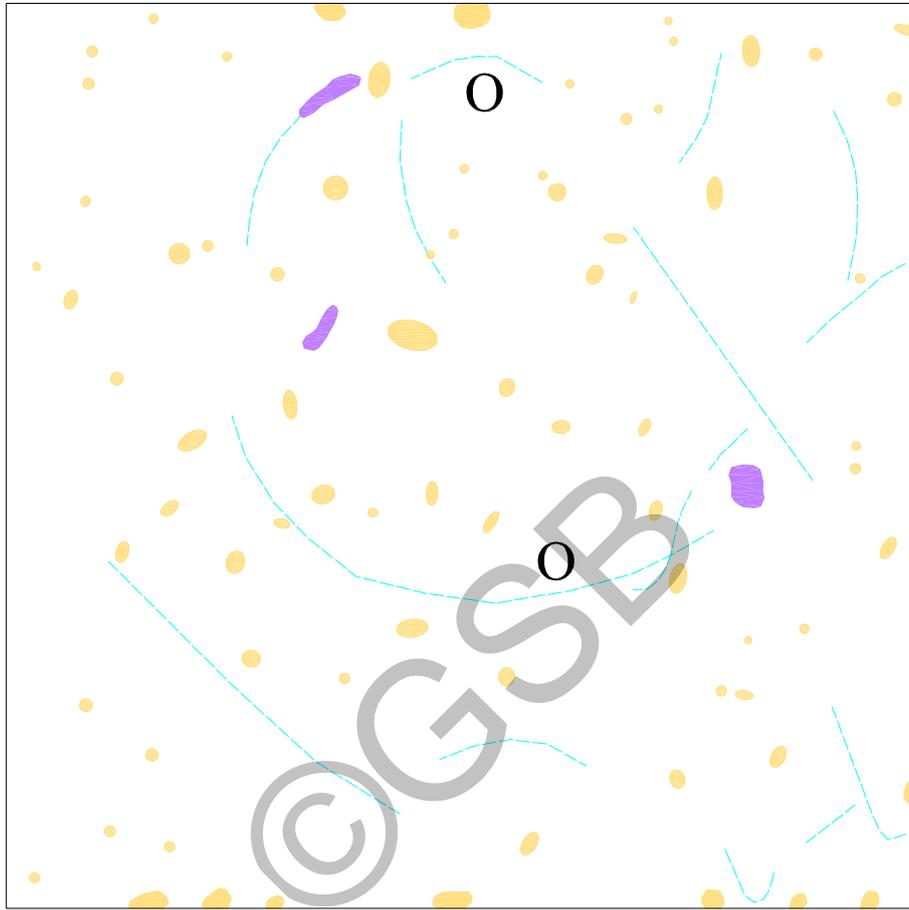
Amlwch, Anglesey  
Area 4



15 nT



# Amlwch, Anglesey Area 4



 ?Archaeology

 Trend

 Ferrous

