

*Survey Commissioned
by
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*Surveyed
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*Bryn Seiont
Geophysical Survey
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NGR

Centred on

Area 1: SH 48290 61449

Area 2: SH 48262 61481

Area 3: SH 48160 61429

Location and Topography (Figures 1 and 2)

Bryn Seiont sits on a spur of land, to the south of, and overlooking, the shallow valley of the Gwyrfaï river south of the town of Caernarfon at an approximate elevation of 22m AOD.

Three areas were investigated; the field to the south east of the hospital buildings (Area 1), the eastern end of the garden of the hospital (Area 2) and the walled garden to the south of the complex (Area 3).

Area 1 is a roughly triangular, pasture, field with a small area of mature trees planted as a feature towards its northern edge. There is a second group of trees just over the southern boundary which appears to be associated with a slight mound and distribution of stones.

Area 2 is within the extension of the garden associated with Bryn Seiont. The available area is somewhat restricted because of a number of trees within this area and the slightly overgrown nature of the vegetation. At the time of the survey, the area investigated was covered with rough grass with clumps of other vegetation reaching waste high.

Area 3 used to be a walled garden, although in recent years it has been used as a small paddock. It has stone walls on three sides and a pleached hedge to the north. At the time of the survey it was largely under pasture, although there was some coarse, brambly vegetation along some of the walls.

All of the survey areas were basically flat.

Archaeological Background

Pendine Park Care Organisation plan to demolish the current building of Bryn Seiont and construct a new 77 bed specialist nursing care facility (Planning ref. C11/0828/14/LL), in addition they wish to construct a further 16

extra care apartments within the grounds (Planning ref. C13/0810/14/LL). The construction of these apartments would extend into the field to the south and east of the existing buildings.

The hospital complex of Bryn Seiont was recently the subject of a Level 3 record including a desk top study and standing building recording related to the planning application to demolish the existing buildings (Planning ref. C11/0828/14/LL). The existing hospital complex was built around an architect designed, house built in 1872, although this house replaced an earlier house somewhere within the grounds. Of particular note is the recovery of a Bronze Age “incense cup” from somewhere in the Bryn Seiont area in the mid nineteenth century suggesting the presence of at least one Bronze Age funerary monuments somewhere within the area (Gwyn and Brooks 2013)

Aims of Survey

To investigate the available open areas within the proposed development site with particular interest in the possibility of Bronze Age funerary monument within the area.

SUMMARY OF RESULTS

No signs of Bronze Age funerary activity was recorded within the surveys. Area 1 has an anomaly crossing the survey area which appears to be a field boundary relating to a field system dating to before 1825 and records some evidence for arable agriculture having taken place in this area.

Area 2 is difficult to interpret, recording several anomalies of uncertain associations, although it is possible that these relate to relatively modern use of the plot. The magnetic signals within Area 3, however appear to relate to the use of this area as a walled garden.

Methods

The Fluxgate Gradiometer survey was undertaken using parts of nineteen 20 x 20 m grid squares laid out as in Figure 2. Readings were taken at 0.25 m intervals along transects 0.5 m apart. These transects were walked in a zigzag pattern.

The surveys were carried out using a Geoscan FM 36 Fluxgate Gradiometer with a ST 1 sample trigger. Grey Scale Plots were produced using Geoscan Research "Geoplot" v. 3.00mx and X - Y plots using Golden Software "Surfer" v. 10.

Survey Results:

Area

The total area of Fluxgate Gradiometer survey was 6008 m². 4241 m² were within Area 1, 595 m² Area 2 and 1172 m² Area 3.

Display

The results are displayed as Grey Scale Image and as X-Y Trace Plots. Figures 3, 4, 6, 7, 9 and 10. The plots are interpreted in Figures 5, 8 and 11; and the results are summarised in Figure 13.

Results:

The results of the survey of Area 1 are shown in Figure 5. A number of magnetic anomalies have been located, however there are areas of ferromagnetic disturbance around the edge of the survey area which are the results of the fences surrounding the field. These responses are shown in blue on Figure 5. The clearest anomaly located is a linear running NE – SW across the survey area (Anomaly A). This is possibly a field boundary, although it cannot be related to any of the boundaries shown on the historic mapping (Figure 14 for example) and therefore it probably dates to a land division before 1825 (Gwyn and Brooks 2013 Figure 2a, 4). At its southern end, this anomaly runs from a group of trees on a slight mound just in the next field (Plate 1) and it is possible that this possible boundary was using this mound as part of its alignment. Possibly associated with the mound are two anomalies

(Anomalies B and C) which lie either side of Anomaly A. To the east of the northern end of Anomaly A is an area of magnetic disturbance (Anomaly D). This is related to a clump of trees in the field and probably represents an accumulation of debris in this area. The only other clear magnetic anomaly (Anomaly E) lies towards the eastern end of the survey area. This anomaly is approximately 4 m in diameter, although its origins is unknown.

Within the survey of Area 1 there are also a number of feint linear anomalies (Anomalies G and F). It is likely that these relate to agricultural activity in the field and are possibly the result of ridge and furrow agriculture.

The results of Area 2 are shown in Figure 8. This area is clearly disturbed and indeed the aerial photograph taken in the 1970's (Gwyn and Brooks 2013, Fig. 13, 22) would suggest this area was used as an access route for the construction of the Geriatric Unit and was heavily disturbed in the process. The clearest magnetic anomaly (Anomaly J) is a high intensity anomaly approximately 4.5 m in diameter. Given its position and form it is probable that this is the result of a relatively modern bonfire at the end of the garden.

There are a number of linear anomalies within the plot, none of which appear to form a consistent pattern. Anomaly H, is the clearest of these, forming an arc across the plot. The feature giving rise to this anomaly is unclear, however it appears to lead to the eastern corner of the garden and may be the result of a path giving access to the field beyond. The other clear linear anomalies (Anomalies I and N) are relatively short lengths of anomaly with no clear function.

In the southern corner of the survey area, two anomalies have been defined (Anomalies K and L) which appear to be related to a very feint linear (Anomaly M) forming an arc around them. The origins of these anomalies is not clear, however given their position it is possible that they relate to the use of this area as a garden. The only other anomaly located (Anomaly O) is a short length of very feint anomaly of unknown origins.

The results of the survey of Area 3 is shown in Figure 11. The anomalies within this survey appear to be related to the use of this area as a walled garden. Three possible paths (Anomalies P, Q and R) run the length of the walled garden, with a fourth running parallel to the southern wall (Anomaly S). The area around the gate in the south western corner of the walled garden is highly disturbed (Anomaly T) and whilst this may be the result of the hardening of this access it is also possible that there was a structure in this corner before this opening was created.

The only anomaly which is not clearly related to the use of this area as a walled garden is Anomaly U. This is an area of disturbance approximately 4.7 m long and 2.0 m wide. Whilst there is no obvious origins for this anomaly it may still be related to the use of the area as a walled garden.

The feint linear anomalies (Anomalies V, W, X and Y) probably relate to horticultural activities within the garden, possibly as divisions within the beds or as planting lines.

High intensity magnetic disturbance was also located around the periphery of the survey area which is shown in blue on Figure 11. Anomaly Z is adjacent to one of the buttresses supporting the eastern wall and is therefore related to the brick with which this structure is constructed. Anomaly AA is the result of the wire within the pleached hedge forming the northern boundary and a dis-used bath used as an animal trough. Anomaly AB, however, is adjacent to a stone wall and therefore may be the result of either debris piled against the wall or possibly a distribution of metal fitting used to support the planting on this wall.

Magnetic Susceptibility

It was possible to take soil samples in order to assess the magnetic susceptibility of the soils. It was not possible, however, to obtain a subsoil sample for comparison. Both volume susceptibility (direct reading of the samples) and mass susceptibility (reading compensated for the varying mass of the samples) is given below. For the location of the grids refer to Figure 12.

| Sample | Volume susceptibility χ_v | Mass susceptibility χ_m |
|---------------|--|--|
| Grid 1 | 154 | 202.6 |
| Grid 2 | 148 | 189.7 |
| Grid 3 | 167 | 219.7 |
| Grid 4 | 184 | 248.6 |
| Grid 5 | 223 | 285.9 |
| Grid 8 | 163 | 229.6 |
| Grid 9 | 303 | 393.5 |
| Grid 14 | 103 | 187.3 |
| Grid 15 | 120 | 200.0 |
| Grid 16 | 149 | 198.7 |
| Grid 17 | 172 | 242.3 |

In general, the susceptibilities, as measured, are of moderate to high values, suggesting that magnetic conditions were ideal for magnetic survey.

Magnetic susceptibility tends to be enhanced by human activity, thus the technique can be used to investigate general levels of activity between areas. There is no clear pattern within the samples, although it is curious that Grids 2 and 3 which are adjacent to the possible mound in the adjacent field have slightly lower values than the other grids sampled as does Grid 14 within the garden. The only grid with slightly enhanced reading is Grid 9, however no significant magnetic anomalies were located within this grid.

Conclusions

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

There is no obvious anomalies within the plots which can be related to the Bronze Age funerary monuments suspected within the area. One possible location is the slight mound covered by trees immediately to the south of the survey area (Plate 1) at SH 48264 61424. This mound includes at least one large stone block (Plate 2) and a scatter of pebbles which is unlike the surrounding area. Only Anomalies B and C may relate to this feature, although this is not entirely clear. The First Edition Ordnance Survey map of 1889 (Figure 14) illustrates two circular enclosures with trees within, one of which relates to the mound on the current field boundary. It is possible that these circular enclosure may mark the positions of possible barrows.

A possible boundary (Anomaly A) leads from the mound towards the NNE. There are no properties along the line of this anomaly to the south and it is therefore unlikely that this anomaly is the result of a modern service pipe. It, therefore, dates from before the earliest reliable mapping of this area in 1825 and relates to a previous land division. It is possible that if the mound to the south is the remains of a barrow this feature was used as a fixed point to layout a field system.

The rest of the anomalies within Area A appear to relate to a previous agricultural regime which includes some ploughing. Area 2, however is less clear. The aerial photograph taken in the 1970's (Gwyn and Brooks 2013, Fig. 13, 22) suggests this area has previously been disturbed during the construction of the Geriatric Unit, and its extension, when it was used as an access route. The magnetic anomalies within this area suggest a possible level of archaeological activity, although this is not entirely clear.

The survey of Area 3, however, appears to record features within the walled garden with

three parallel paths running the length of the garden.

Recommendations

The construction of the 16 extra care apartments will cross the eastern end of the garden and extend into the field covered by Area 1. It is therefore recommended that the area of the extra care apartments is stripped with a smooth faced ditching bucket, under archaeological monitoring, and time is allowed within the construction programme for the recording of any archaeological features revealed.

Acknowledgements

These surveys were commissioned by G. Jones of behalf of Pendine Park Care Organisation.

References

- Gwyn, D. and Brooks I.P. 2013. *Bryn Seiont Hospital, Caernarfon Level 3 Recording*. Govannon Report GC318.



Plate 1: Possible mound adjacent to Area 1.



Plate 2: Stone block associated with the mound adjacent to Area 1

Techniques of Geophysical Survey:

Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remanence which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

Resistivity:

This relies on variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than Magnetometry this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

Resistance Tomography

Builds up a vertical profile or pseudosection through deposits by taking resistivity readings along a transect using a range of different probe spacings.

Magnetic Susceptibility:

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

Instrumentation:

- 1. Fluxgate Gradiometer - Geoscan FM36***
- 2. Resistance Meter - Geoscan RM4/DL10***
- 3. Magnetic Susceptibility Meter - Bartington MS2***
- 4. Geopulse Imager 25 - Campus***

Methodology:

For Gradiometer and Resistivity Survey 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at 0.25, 0.5m or 1m intervals along traverses 0.5 or 1m apart. Resistance meter readings are logged at 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. Final analysis is carried out back at base.

For scanning transects are laid out at 10m intervals. Any anomalies noticed are where possible traced and recorded on the location plan.

For Magnetic Susceptibility survey a large grid is laid out and readings logged at 20m intervals along traverses 20m apart, data is again configured and analysed on a laptop computer.

Copyright:

EAS Ltd shall retain full copyright of any commissioned reports, tender documents or other project documentation, under the Copyrights, Designs and Patents Act 1988 with all rights reserved: excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification

Appendix 1: DESIGN BRIEF FOR ARCHAEOLOGICAL EVALUATION

Site: Bryn Seiont Hospital, Caernarfon

Date: 3rd December 2013

National Grid Reference: 248230, 361535

Planning reference: C13/0810/14/LL

Applicant: Pendine Park Care Organisation

This design brief is only valid for six months after the above date. After this period Gwynedd Archaeological Planning Service should be contacted.

It is recommended that the contractor appointed to carry out the archaeological work visits the site of the proposed development and consults the regional Historic Environment Record (HER) for north-west Wales before completing their specification. Gwynedd Archaeological Planning Service cannot guarantee the inclusion of all relevant information in the design brief.

Key elements specific to this design brief have been highlighted.

1.0 Site Location and Description

- 1.1 For the purposes of this brief the site comprises an irregularly shaped area totaling slightly less than 1 hectare within the grounds of the former Bryn Seiont Hospital in Caernarfon, Gwynedd. The site is located in a rural setting on the southern outskirts of Caernarfon.
- 1.2 The site includes a paddock, former gardens, former hospital buildings and associated tarmacked ground for parking etc. It is bound to the west by Pant Road (a minor road between Llanwnda and Caernarfon), to the north by the former hospital grounds, to the east by the A487 and to the south by pasture.
- 1.3 The site is relatively level at approximately 20m OD, c.100m to the south-west of the Afon Seiont.

2.0 Archaeological Background

- 2.1 The property known as Bryn Seiont (most recently in use as a hospital) has been the subject of recent archaeological study in connection with the main redevelopment scheme (planning ref. C11/0828/14/LL, archaeological report GC318, by Govannon Consultancy and Engineering Archaeological Services Ltd, September 2013). Although the primary focus of this work was the existing buildings, the report also provided an account of the site's history based on archive sources. This indicated that the site has remained undeveloped since at least the early 19th century, being occupied by agricultural land and gardens.
- 2.2 The antiquarian discovery of a prehistoric burial 'near Bryn Seiont' is recorded on the HER in the vicinity of the site (PRN 3099). Intact pottery, including funerary urns, were found, one being described as found within a burial mound. No above ground trace of the mound survives and as the circumstances of the discovery are not recorded, the precise location is not known.
- 2.3 Prehistoric burials rarely occur in isolation and there is a high potential for associated buried remains to exist. The condition of the artefacts previously found, together with the absence of previous disturbance, suggests that any such remains within the site are likely to be well preserved. It is likely that well preserved prehistoric burials would be considered of regional to national importance.

- 2.4 In addition, the site is close to the possible location of the Roman crossing of the Afon Seiont and there is a potential for Roman remains in this area.
- 2.5 In light of this potential, field evaluation is required to establish the extent, nature and significance of the archaeological resource in order to determine the impact of the scheme and if appropriate, to inform a mitigation strategy.
- 2.6 The following documents must be studied in relation to this project:
- Bryn Seiont Hospital, Caernarfon: Level 3 Recording, unpublished report prepared for Mario Kreft by Govannon Consultancy and Engineering Archaeological Services Ltd (report GC318), September 2013

3.0 The nature of the development and archaeological requirements

- 3.1 Planning consent is being sought for the construction of sixteen extra care residential units, as an extension to a consented scheme for the redevelopment of the site to provide a high quality specialist care facility. The current elements comprise new building, with associated services, and hard and soft landscaping.
- 3.2 The scheme has received planning consent subject to resolution of a number of issues, including completion of an archaeological evaluation.
- 3.3 This is a *design brief* for the first phase of a staged programme of archaeological works, to be undertaken in accordance with guidelines set out in Planning Policy Wales 2012 and Welsh Office Circular 60/96 (Planning and the Historic Environment: Archaeology). This phase will comprise a **geophysical survey**.
- 3.4 The objective of this programme of archaeological works is to make full and effective use of existing information to establish the archaeological significance of the site; to assess the impact of the development proposals on surviving monuments or remains; and to help inform future decision making, design solutions and potential mitigation strategies.
- 3.5 Following the geophysical survey, and informed by the findings, a programme of trial trenching may be required in order to verify the presence or absence of remains, their extent, nature, quality and character. Because it is impossible to state at this stage what the scope of this further evaluation might be, any such requirements will be covered by a separate brief.
- 3.6 Any additional stages of work further to that described by this brief will require prior approval of a new detailed specification by Gwynedd Archaeological Planning Service.
- 3.7 This *design brief* should be used by the archaeological contractor as the basis for the preparation of a detailed written archaeological specification. The specification must be submitted to the Gwynedd Archaeological Planning Service for approval before the work commences.
- 3.8 The *specification* should contain, as a minimum, the following elements:
- non-technical summary
 - details of the proposed works as precisely as is reasonably possible,
 - indicating clearly on a plan their location and extent
 - a research design which sets out the site-specific objectives of the
 - archaeological works
 - field methodology
 - post-fieldwork methodology
 - the level and grade of all key project staff

- details of external specialists (where applicable)
- a timetable for the proposed works, including contingency if appropriate
- the intended method of publication
- archive deposition
- reference to relevant legislation
- health and safety considerations
- monitoring procedures

4.0 Archaeological Programme Detail

- 4.1 The HER must be consulted in order to ensure that existing data is up to date. This should include reference to relevant reports concerning the site (see 2.6 above).
- 4.2 The following non-destructive field evaluation techniques must be employed: • A high resolution geophysical survey of all feasible parts of the site (expected to be c.0.75 hectares). A magnetometer survey with a narrow sampling interval of 0.25m, traverse spacing of 0.5m, should be employed in order to maximize identification of discrete features.
- 4.3 The geophysical survey should be informed by desk-based information. The effectiveness of the selected technique should be established through a test area before undertaking survey of the whole area and alternative methods of evaluation considered if necessary.
- 4.4 Any variation to the agreed evaluation technique must be agreed in advance with GAPS.

5.0 Results

- 5.1 The results must be presented in a bound report and should be detailed and laid out in such a way that data and supporting text are readily cross-referenced. **The HER Officer should be contacted to ensure that any sites or monuments not previously recorded in the HER are given a Primary Record Number (PRN) and that data structure is compatible with the HER.**
- 5.2 The survey results must be presented graphically as greyscale plots and interpretative plans at a suitable scale, using colour coding as appropriate to aid interpretation. These must be complemented by discursive text, setting out the methodology and results, including any limitations to survey and/or interpretation.
- 5.3 The final report should include the following:
- a copy of the design brief and agreed specification
 - a location plan
 - a full bibliography of sources consulted
 - an archive compact disc
- 5.3 Any relevant desk-based sources included for the purposes of interpretation and analysis must be fully referenced, and related to both the archaeological work and the development proposals. Any site photographs included in the report should be appropriately captioned and clearly located on a suitably scaled site plan.
- 5.4 The report should include an assessment of the potential for further archaeological investigation and where relevant give recommendations for an appropriate future strategy.
- 5.5 The methodology for any subsequent phase of the archaeological programme must consider the use of the following techniques:
- a) alternative methods of ground survey

- b) a programme of archaeological trial trenching, test pits and/or cores to investigate the archaeological deposit model in more detail
- c) strip, map and sample
- d) design modification to preserve remains in situ
- e) archaeological building recording
- f) archaeological excavation
- g) archaeological survey / recording
- h) archaeological watching brief on construction works

6.0 General requirements

- 6.1 The archaeological evaluation must be undertaken by an appropriately qualified individual or organisation, fully experienced in work of this character.
- 6.2 Details, including the name, qualifications and experience of the project director and all other key project personnel (including specialist staff) should be communicated to the Gwynedd Archaeological Planning Service and all written work attributed to an author(s).
- 6.3 Contractors and subcontractors are expected to conform to standard professional guidelines. The following are of particular relevance to this project:
 - English Heritage, 1991. Management of Archaeological Projects (MAP2)
 - English Heritage, 2006. Management Of Research Projects in the Historic Environment (MORPHE)
 - English Heritage, 2008. Geophysical Survey in Archaeological Field Evaluation
 - Brown D. H., 2007. Archaeological Archives A guide to best practice in creation, compilation, Transfer and curation. Archaeological Archives Forum
 - Richards, J. & Robinson, D., 2000. Digital Archives from Excavation and Fieldwork: Guide to Good Practice (Second Edition). The Archaeology Data Service Guide to Good Practice: Oxbow Books <http://ads.ahds.ac.uk/project/goodguides/excavation/>
 - The Institute for Archaeologists, 1985 (revised 2010). Code of Conduct
 - The Institute for Archaeologists, 1990 (revised 2008). Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology
 - The Institute for Archaeologists, 1994 (revised 2009) Standard and Guidance for Archaeological Desk-Based Assessment
 - The Institute for Archaeologists, 1994 (revised 2008) Standard and Guidance for Archaeological Field Evaluation
 - The Institute for Archaeologists, 2001 (revised 2008). Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials
 - The Institute for Archaeologists, 2008. Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives
 - The Institute for Archaeologists, 2011 Standard and Guidance for Archaeological Geophysical Survey
- 6.4 Many people in North Wales speak Welsh as their first language, and many of the archive and documentary references are in Welsh. Contractors should therefore give due consideration to their ability to understand and converse in Welsh.
- 6.5 The archaeological contractor must satisfy themselves that all constraints to groundworks have been identified, including the siting of live services, Tree Preservation Orders and public footpaths. Gwynedd Archaeological Planning Service bears no responsibility for the inclusion or exclusion of such information within this brief.
- 6.6 Any changes to the specifications that the archaeological contractor may wish to make after approval by this office should be communicated to Gwynedd Archaeological Planning Service and approved before implementation.

- 6.7 Care must be taken in dealing with human remains and the appropriate environmental health regulations followed. Gwynedd Archaeological Planning Service and the local Coroner must be informed immediately human remains are discovered.
- 6.8 Arrangements for the long-term storage and deposition of all artefacts must be agreed with the landowner and Gwynedd Archaeological Planning Service before the commencement of investigation.
- 6.9 The involvement of Gwynedd Archaeological Planning Service should be acknowledged in any report or publication generated by this project.
- 6.10 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared in accordance with standard guidance. All plans, photographs and descriptions should be labelled, cross referenced and lodged in an appropriate place (to be agreed with Gwynedd Archaeological Planning Service) within six months of the completion of the project.
- 6.11 Two copies of the bound report must be sent to the address below, one copy marked for the attention of the Development Control Archaeologist, the other for attention of the HER Officer, who will deposit the copy in the HER.
- 7.0 Curatorial monitoring
- 7.1 The project will be monitored by Gwynedd Archaeological Planning Service to ensure the fulfilment of the brief and specifications. The Development Control Archaeologist will normally review the progress of reports and archive preparation. The archaeological contractor must inform Gwynedd Archaeological Planning Service in writing of the proposed start dates for the project and any subsequent phases of work.
- 8.0 **Further information**
- 8.1 This document outlines best practice expected for a programme of archaeological mitigation but cannot fully anticipate the conditions that will be encountered as work progresses. If requirements of the brief cannot be met they should only be excluded or altered after gaining written approval of the Gwynedd Archaeological Planning Service.
- 8.2 Further details or clarification of any aspects of the brief may be obtained from the Development Control Archaeologist at the address below.

Jenny Emmett

Archaeologydd Rheoli Datblygiad - Development Control Archaeologist
Gwasanaeth Cynllunio Archaeolegol Gwynedd - Gwynedd Archaeological Planning Service
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Appendix 2: Specification

Specification for the Archaeological Geophysical Surveys at Bryn Seiont Hospital, Caernarfon.

Specification compiled by I.P. Brooks
4th December 2013

1. Background

- 1.1. It is intended to construct sixteen extra care residential units within the grounds of the disused Bryn Seiont Hospital as an extension to a consented scheme of redevelopment.
- 1.2. Antiquarian records suggest the presence of a Bronze Age funerary monument somewhere in the Bryn Seiont area.
- 1.3. This specification has been compiled in consideration of:
 - 1.3.1. The brief dated D1593, dated 3rd December 2013 by J Emmett
 - 1.3.2. A previous survey of the existing buildings by Govannon and Engineering Archaeological Services Ltd.

2. Aims

- 2.1. The aim of the geophysical surveys is to investigate the available open areas within the proposed development recording any magnetic anomalies which may represent archaeological activity.

3. Field work program

- 3.1. The survey area consists of the approximately 0.52 h in the field to the south east of the dis-used hospital and approximately 0.12 h within the south east sector of the hospital grounds:
 - 3.1.1. Fluxgate gradiometer surveys
 - 3.1.2. Analysis and report preparation

4. Methodology

- 4.1. Fluxgate Gradiometer Surveys
 - 4.1.1. The survey areas will be gridded with a 20 x 20 m grid. These squares will be marked by plastic pegs.
 - 4.1.2. The grid will be tied to local features
 - 4.1.3. Geoscan FM 36 Fluxgate Gradiometer will be used for the survey
 - 4.1.4. Readings will be taken at 0.25 m intervals along transects 0.5 m apart with a zig-zag pattern being walked
 - 4.1.5. The data will be downloaded on to a laptop computer in the field
 - 4.1.6. The data will be analysed using Geoplot v. 3.00v
 - 4.1.7. Grey scale plots will be produced using Geoplot v. 3.00v
 - 4.1.8. X - Y plots will be produced using Golden software "Surfer" v. 10

- 4.1.9. If possible, a limited number of small soil samples will be taken for magnetic susceptibility analysis as an aid to interpret the results of the Fluxgate Gradiometer survey.

5. Reporting

- 5.1.1. A summary report on the findings of the investigations will be prepared and completed within four weeks from completion of the project. This will summarise the results of the project including;
- 5.1.2. A site location plan
- 5.1.3. An outline methodology
- 5.1.4. The results of the Fluxgate Gradiometer Surveys including:
 - 5.1.4.1. The grey scale plot
 - 5.1.4.2. The X - Y plot
 - 5.1.4.3. An interpretation of the results of the survey
 - 5.1.4.4. A non technical summary of the results.
- 5.1.5. A full bibliography
- 5.1.6. A copy of the design brief and the agreed specification
- 5.1.7. An assessment of the potential for further archaeological investigation
- 5.1.8. Up to five copies of the report will be provided.
- 5.1.9. A digital copy of the report will also be provided.
- 5.1.10. A printed and digital copy of the report will be supplied to the Gwynedd Historic Environment Record
- 5.1.11. A printed and digital copy of the report will be supplied to Gwynedd Archaeological Planning Service

6. General

- 6.1. IFA Code of Conduct
 - 6.1.1. All staff will abide by, and all procedures be carried out in accordance with the Institute of Field Archaeologists' Code of Conduct.
- 6.2. Health and Safety
 - 6.2.1. EAS Ltd adopt and adhere to safe working practices at all times. A copy of the company's general statement of policy is available on request.

7. Staff

- 7.1. The project will be directed by Dr I.P. Brooks MifA FSA
- 7.2. Project Staff will include Dr I.P. Brooks MifA FSA.

8. Curatorial Monitoring

- 8.1. The Gwynedd Archaeological Planning Service will be informed as to the start date and progress of the survey.

9. Timetable

- 9.1. It is expected that the fieldwork for this project will be completed within two days
- 9.2. The report will be available within two weeks of the completion of the fieldwork.

10. Insurance

- 10.1.1. EAS Ltd carries all necessary Public and Employee Liability Insurances.
- 10.1.2. EAS Ltd carries Professional Indemnity Insurance

11. Copyright

- 11.1.1. EAS Ltd shall retain full copyright of any commissioned reports, tender documents or other project documentation, under the *Copyrights, Designs and Patents Act 1988* with all rights reserved: excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.
- 11.1.2. EAS Ltd is prepared to assign copyright at the request of the client.

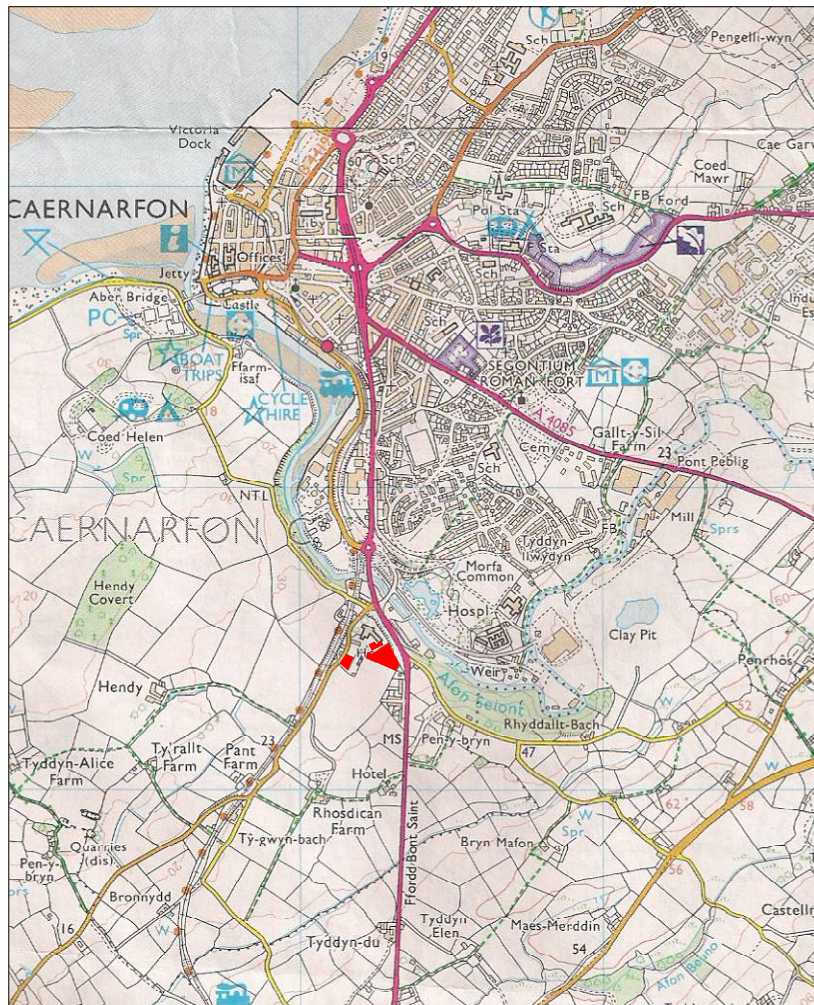


Figure 1: Location
Scale 1:25,000

Reproduced from the Explorer OL17, 1:25,000 scale map
by permission of the Ordnance Survey ® on behalf of
The Controller of Her Majesty's Stationary Office
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Figure 2: Location of the Surveys
Scale 1:750

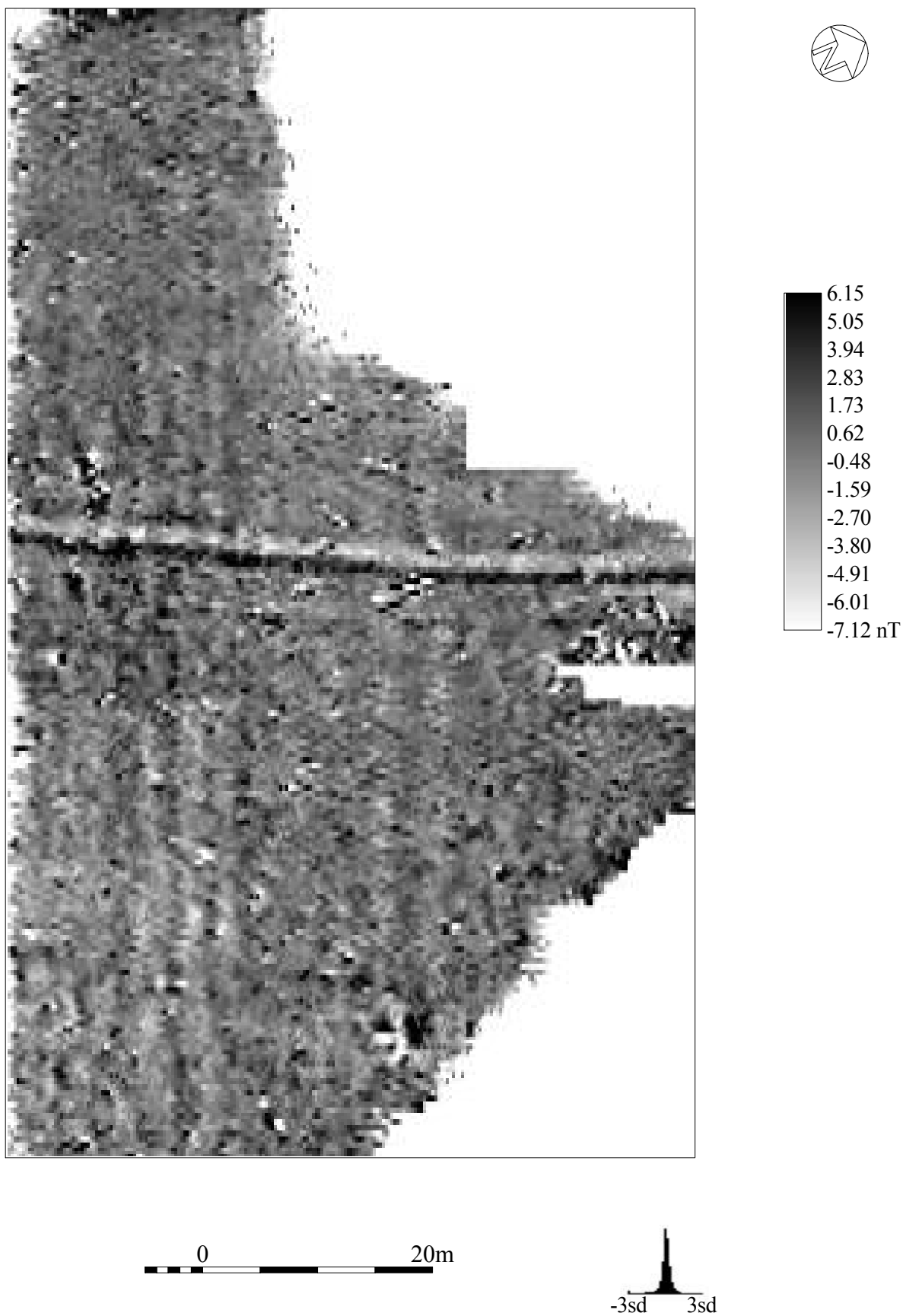


Figure 3: Area 1, Greyscale Plot
Scale 1:500

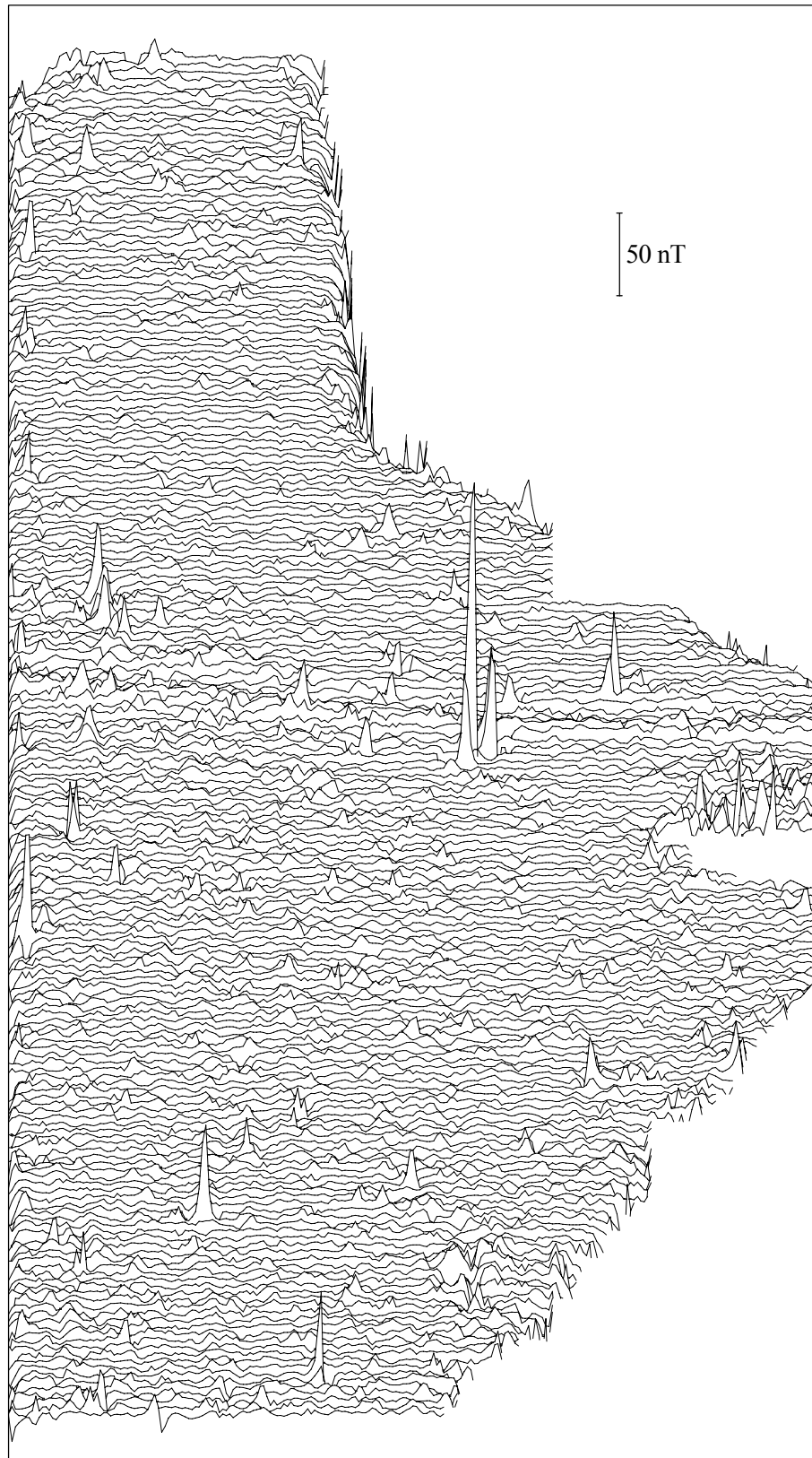


Figure 4: Area 1, X-Y Plot
Scale 1:500

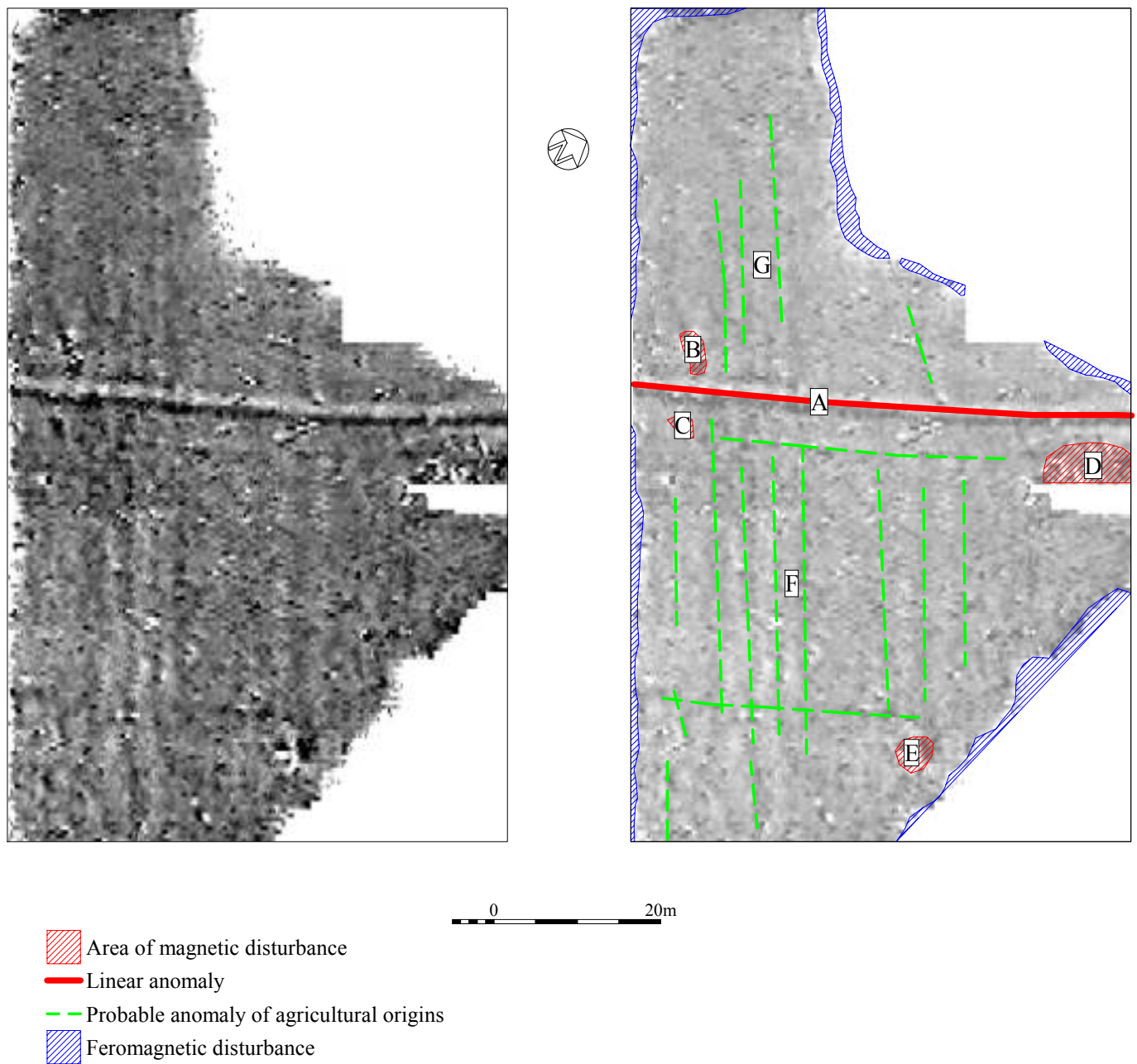


Figure 5: Area 1, Interpretation
Scale 1:750

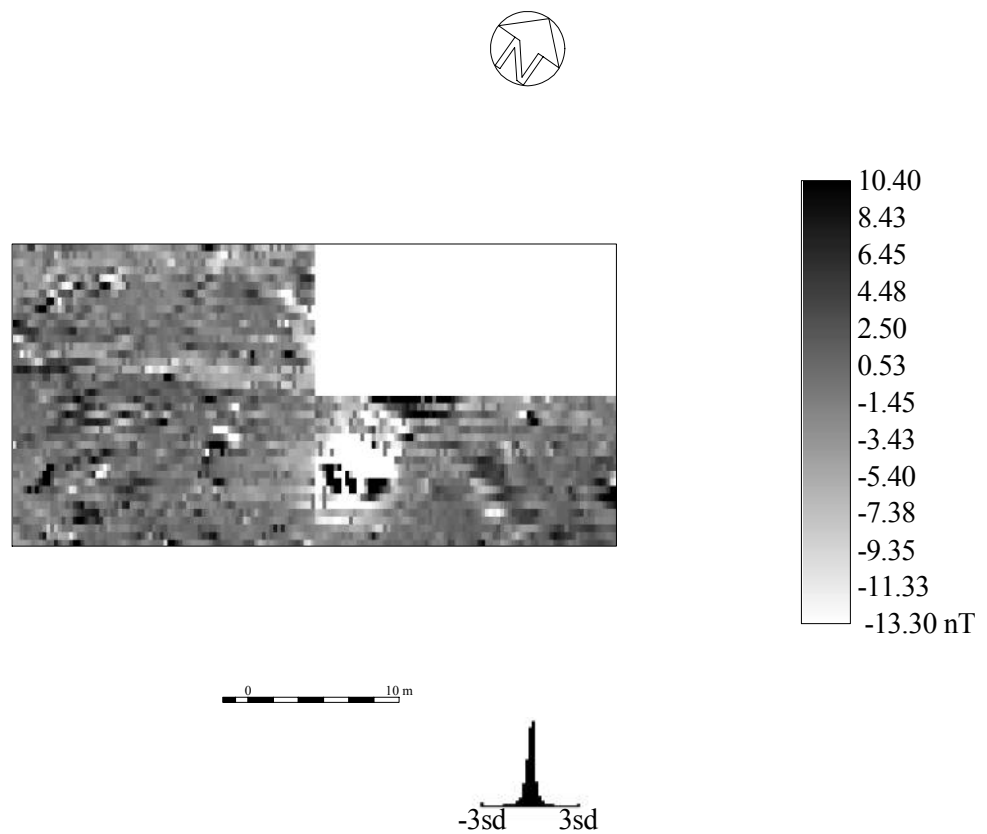


Figure 6: Area 2; Greyscale Plot
Scale 1:500

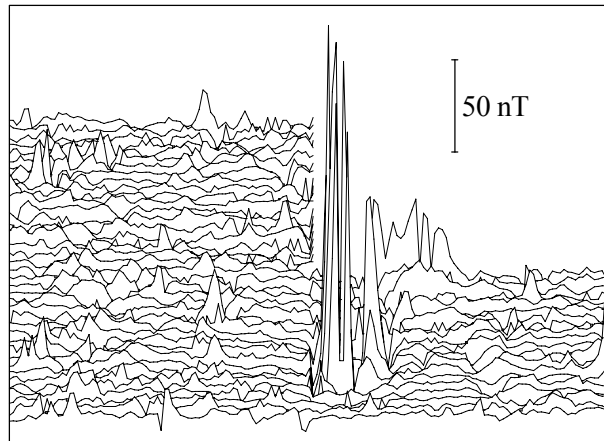
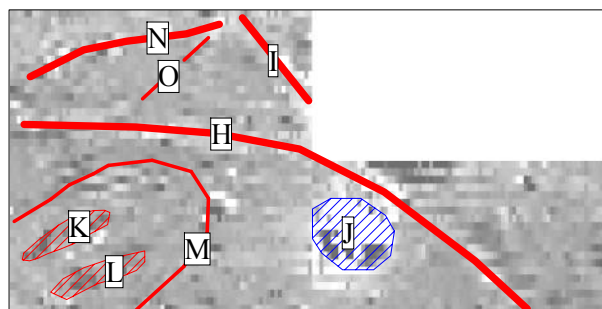
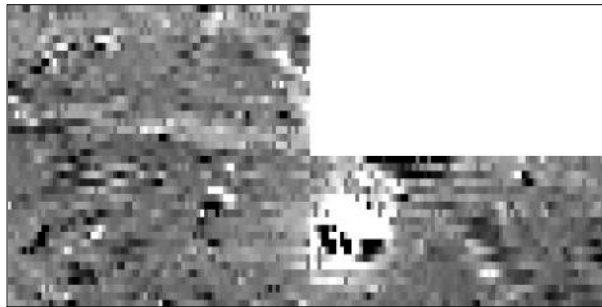


Figure 7: Area 2, X-Y Plot
Scale 1:500



0 10 m





-  Area of magnetic disturbance
-  Linear anomaly
-  Probable anomaly of agricultural origins
-  Ferromagnetic disturbance

Figure 8: Area 2, Interpretation
Scale 1:500

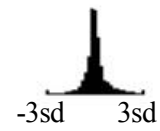
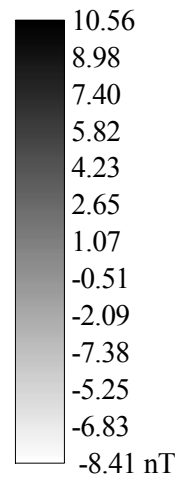


Figure 9: Area 3; Greyscale Plot
Scale 1:500

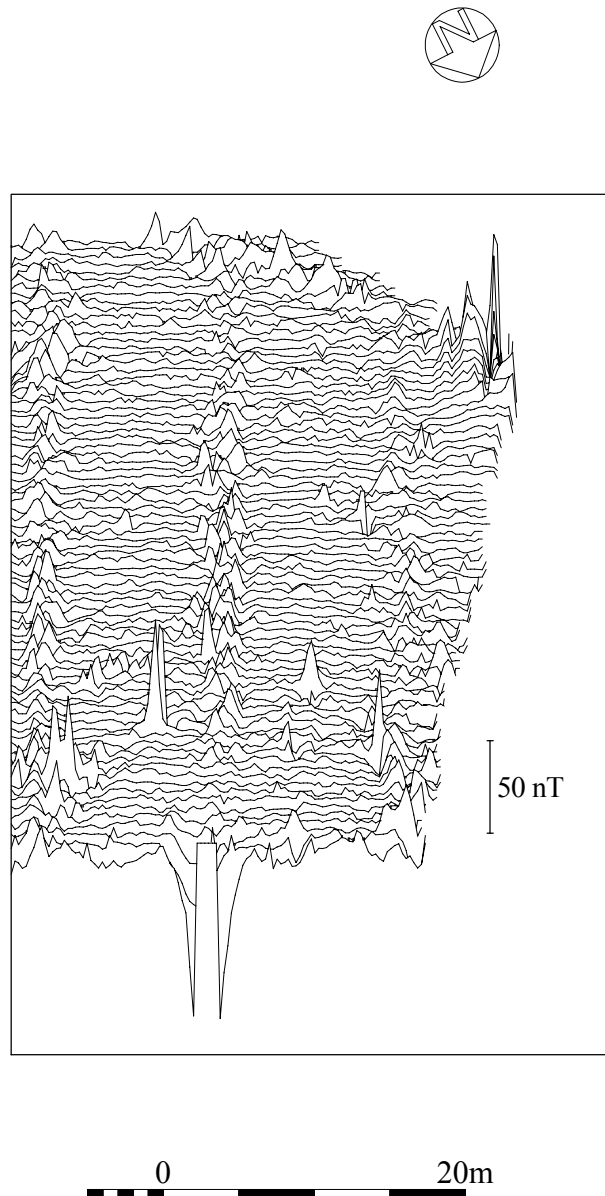
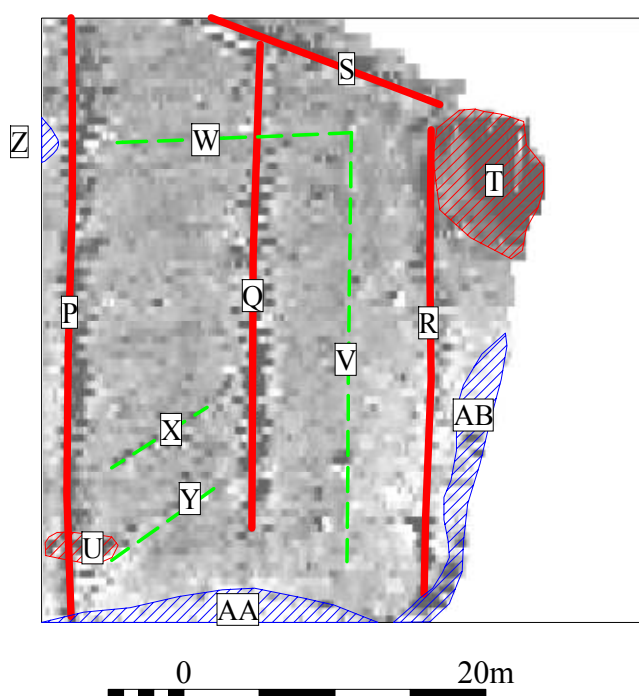


Figure 10: Area 3, X-Y Plot
Scale 1:500







-  Area of magnetic disturbance
-  Linear anomaly
-  Probable anomaly of agricultural origins
-  Ferromagnetic disturbance

Figure 11: Area 3, Interpretation
Scale 1:500



Figure 12: Location of the Magnetic Suceptibility Samples
Scale 1:750

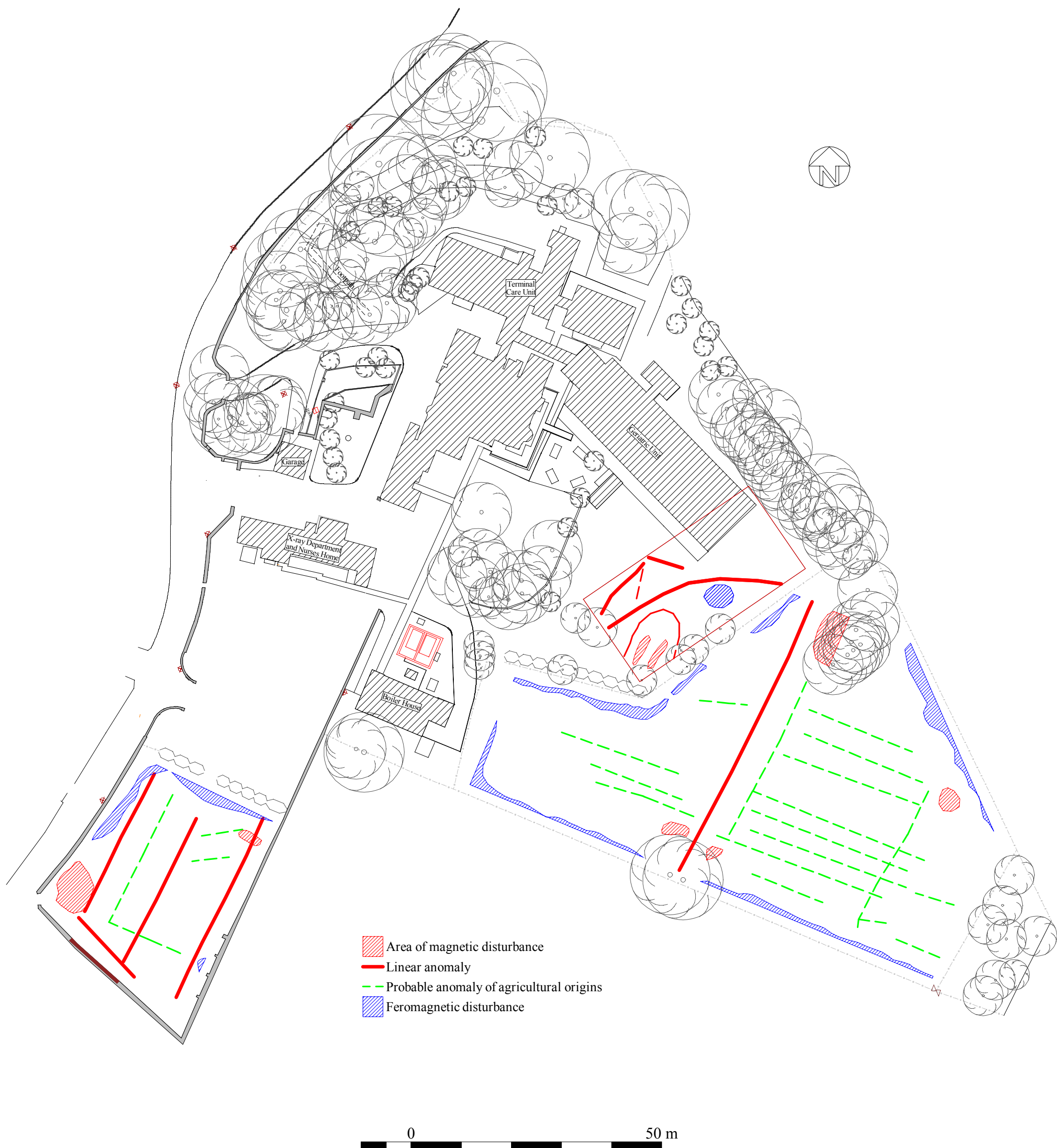


Figure 13: Summary
Scale 1:750

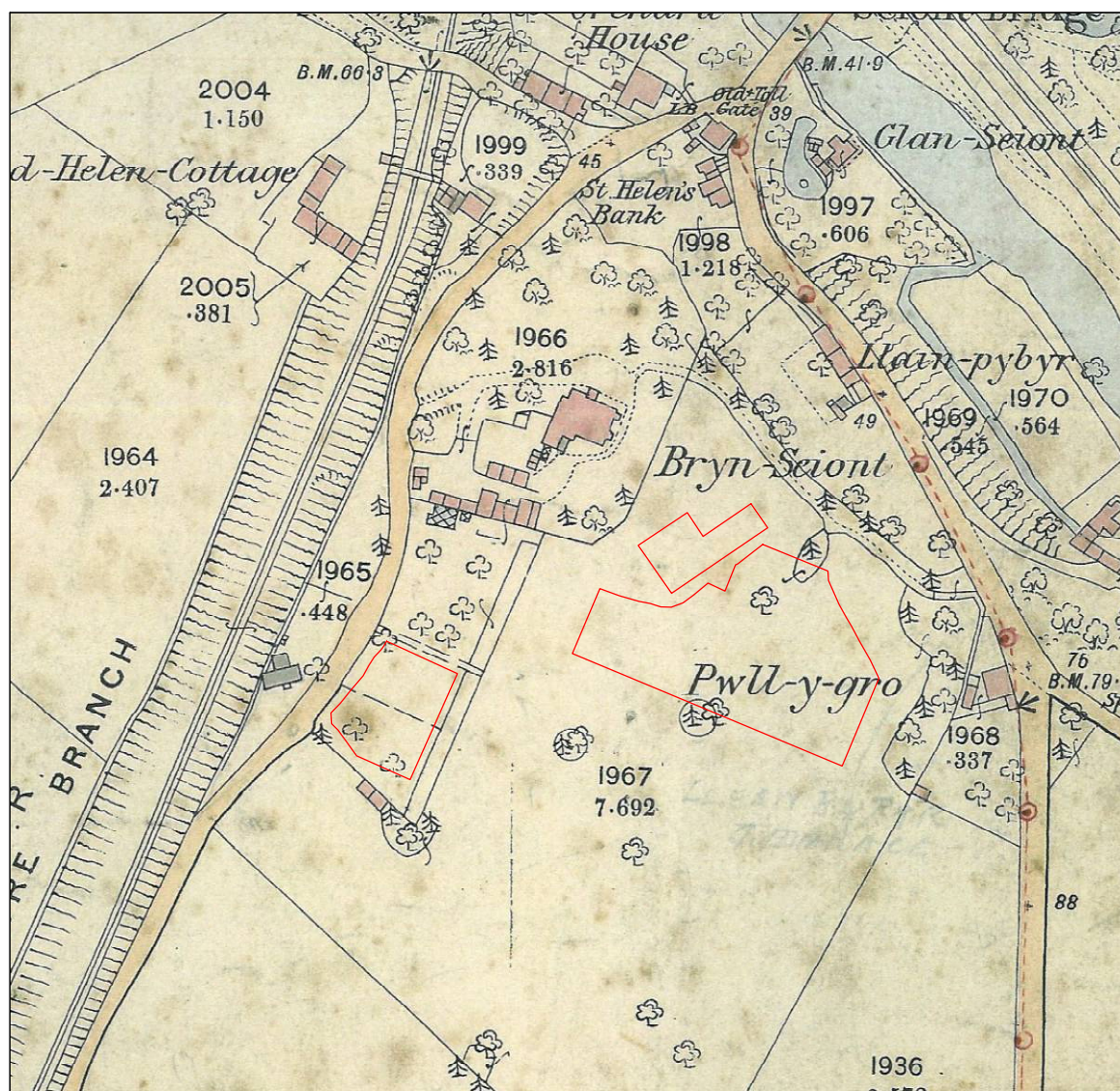


Figure 14: Extract from the First Edition (1889) Ordnance Survey map
Caernarvonshire XV.8
Scale 1:25,000