TY MAWR DEVELOPMENT STUDY HOLYHEAD

ARCHAEOLOGICAL EVALUATION

Report No. 428

Prepared for

Symonds Group Limited

November, 2001

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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LAND AT TY MAWR, HOLYHEAD (G1701)

RESULTS OF ARCHAEOLOGICAL FIELD EVALUATION

SUMMARY

It is intended to develop a green-field site within an area of land comprising some 140 ha in the vicinity of Ty Mawr, Holyhead. An archaeological assessment undertaken in November 2000 (GAT Report 389) revealed a high density of known archaeological sites, including two scheduled ancient monuments. The potential for the discovery of additional sites was considered to be high, and hence a programme of field evaluation was recommended to form part of the Environmental Assessment.

The evaluation comprised 34,800 sq. m. of magnetometer survey and 2,755 sq. m. of trial excavation, and was confined to the northern part of the development area, that is the area for which a planning application is to be submitted. The location of the magnetometer survey grids was partly determined by the location of known archaeological sites and partly by local topography. The location of the trial trenches was further informed by the magnetometer results.

A number of sites included within the assessment report required evaluation to determine their status, as field walking alone had been unable to ascertain the potential of the archaeological deposits. As a result of the field evaluation three of these sites were allocated to Category D (Minor and damaged sites), one was allocated to Category C (Local importance) and one was allocated to Category B (Regional importance).

Seven new sites (numbers 37 – 43) were discovered during the evaluation works. Two of these were identified as settlements of late Prehistoric/Romano-British date (circa 500 BC to 400 AD), and another as a metalworking site of similar date. All were allocated to Category B (Regional importance). The remaining four sites require further work to ascertain their status, and have not, therefore, been allocated to a category of importance. One is a peat deposit, which has potential for adding to our understanding of the past environment. Another is an area of burnt clay, possibly a hearth within a building. The third is described as an area of 'stone cobbling', and the fourth are two pits adjoining pits containing large stones which have been deliberately set in place, although their function is unknown.

Recommendations include full excavation of the three Category B sites, combined with geophysical survey to identify the site limits, and to place the sites within a wider context. Recommendations for the Category E sites are for further evaluation, including extensive geophysical survey and additional excavation. Given the density of archaeological sites within the area it is also recommended that further geophysical survey is undertaken within the northern part of the development area.

Attention is drawn to the importance of the two scheduled ancient monuments (Trefignath burial chamber and Ty Mawr standing stone) and the need to preserve their setting.

1. INTRODUCTION

A development is proposed on, and adjacent to, land at Ty Mawr Farm, Holyhead, within an area of comprising some 140ha. An archaeological assessment was undertaken by Gwynedd Archaeological Trust (Contracts Section) in November 2000 (GAT Report No. 389). Recommendations arising from the assessment included a programme of field evaluation comprising geophysical survey and trial excavation. A project design was requested by, and submitted to, Symonds Group Ltd on behalf of the Welsh Development Agency and the evaluation was carried out by Gwynedd Archaeological Trust Contracts Section between 16th July and 8th August 2001. The work was assisted by advice from Emily Bateman, Development Control Officer for Gwynedd and Anglesey. The help and advice of Jon Stoddard, Symonds Group, is gratefully acknowledged. The project was managed by Andrew Davidson, and directed on site by David Hopewell, who also carried out the geophysical survey. Additional supervisory work was undertaken by Kate Geary and Andrew Dutton. The report was written by David Hopewell and Andrew Davidson.

2. PROJECT DESIGN

Field evaluation is defined as a 'limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present, Field Evaluation defines their character and extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate', *(Standard and Guidance for Archaeological Field Evaluation).*

The aims of this phase of the work were, therefore, to build upon the findings of the archaeological assessment by using field evaluation techniques to determine the presence or absence of archaeological remains and to assess their extent and significance. The known archaeological remains were to help determine the likely location of, and to determine the character of, new archaeological findings. The evaluation was limited to those areas to be developed as defined upon Drawing number 56080/MP/01 Rev B, but excluding plots A, J and I.

3. METHODOLOGY

Two principal techniques were used to undertake the field evaluation at Ty Mawr. The first, non-intrusive, phase was undertaken by magnetometer survey. This is the preferred method for area survey (*Geophysical Survey in Archaeological Field Evaluation*, English Heritage, 1995), and previous experience of its use within the area had demonstrated the technique to be effective within the study area at Ty Mawr. Trial excavation formed the second, intrusive, phase of the field evaluation and details of both stages are given below. The field evaluation was in accordance with the project design, included as appendix I.

3.1 Geophysical Survey

3.1.1 Instrumentation

All geophysical work was carried out using a Geoscan FM36 Fluxgate Gradiometer. This instrument detects variations in the earth's magnetic field caused by the presence of iron in the soil. This is usually in the form of weakly magnetised iron oxides, which tend to be concentrated in the topsoil. Features cut into the subsoil and backfilled or silted with topsoil therefore contain greater amounts of iron and can be detected with the gradiometer. This is a simplified description as there are other processes and materials which can produce detectable anomalies. The most obvious is the presence of pieces of iron in the soil or immediate environs which usually produce very high readings and can mask the relatively weak readings produced by variations in the soil. Strong readings are also produced by archaeological features such as hearths or kilns as fired clay acquires a permanent magnetic field upon cooling. Not all surveys produce good results as the data can be masked by large magnetic variations in the bedrock or soil and in some cases there may be little variation between the topsoil and subsoil, resulting in undetectable features.

The Geoscan FM36 is a hand held instrument and readings can be taken automatically as the operator walks at a constant speed along a series of fixed length traverses. The sensor consists of two vertically aligned fluxgates set 500mm apart. Their Mumetal cores are driven in and out of magnetic saturation by a 1,000Hz alternating current passing through two opposing driver coils. As the cores come out of saturation, the external magnetic field can enter them producing an electrical pulse proportional to the field strength in a sensor coil. The high frequency of the detection cycle produces what is in effect a continuous output (Clark 1990).

The gradiometer can detect anomalies down to a depth of approximately one metre. The magnetic variations are measured in nanoTeslas (nT). The earth's magnetic field strength is about 48,000 nT, typical archaeological features produce readings of below 15nT although burnt features and iron objects can result in changes of several hundred nT. The machine is capable of detecting changes as low as 0.1nT.

3.1.2 Data Collection

The gradiometer includes an on-board data-logger. Readings in were taken along parallel traverses of one axis of a 20m x 20m grid. The traverse interval was one metre. Readings were logged at intervals of either 0.5m or 0.25m along each traverse giving 800 or 1600 readings per grid.

3.1.3 Data presentation

The data is transferred from the data-logger to a computer where it is compiled and processed using Geoplot 3.0 software. The following two display options are used in this report along with an interpretation drawing.

a) X-Y plot
Each traverse is shown by a line trace. These are presented side by side allowing the full range of data and the shape of any anomalies to be seen.

b) Grey-Scale
Data values are represented by modulation of the intensity of a grey scale within a rectangular area corresponding to the data collection point within the grid. This produces a plan view of the survey and allows subtle changes in the data to be displayed.

3.1.4 Data Processing

The data is presented with a minimum of processing. High readings caused by stray pieces of iron, such as fences, or bits of machinery, are usually modified on the grey scale plot as they have a tendency to compress the rest of the data. The data is however carefully examined before this procedure is carried out as kilns and other burnt features can produce similar readings. Corrections are also made to compensate for instrument drift and other data collection inconsistencies. Any further processing is noted in relation to each individual plot.

3.2 Trial Excavation

The trial trenches were excavated by machine to the base of the plough soil, and subsequently cleaned by hand when archaeological deposits were encountered. Typically the trenches measured 20m by 2m, although this varied to reflect the requirements of each site. All archaeological features were photographed and planned at a scale of 1:20, and were not excavated further unless additional evaluation was thought necessary. The location of each trench was surveyed using a total station electronic theodolite, as were any archaeological features encountered. All the trenches were backfilled by machine once recording was complete. The location of the trenches was determined by a number of factors including topography, the location of known archaeological sites, and the results of the geophysical survey.

The purpose of trial trenching is to identify archaeological deposits and features, but not to investigate those that are found. A minimal amount of excavation may be necessary to confirm the nature of a feature, but the intention is to leave the deposits to be fully investigated during next phase of work. This allows all features to be seen and excavated together during area excavation, but it does mean that few finds are recovered during trial trenching and field records are generally restricted to trench plans.

A full archive including plans, photographs, written material, and any other material resulting from the project was prepared. All plans, photographs and descriptions are labelled and cross-referenced, and are currently archived with Gwynedd Archaeological Trust under project number G1701. All digital data are written to CD-ROM and stored with the paper archive.

3.3 Finds Strategy

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Finds are the property of the landowner, however, it is Trust policy to recommend that all finds are donated to an

appropriate museum where they can receive specialist treatment and study. The Trust will retain the finds for a reasonable period to allow for study and publication. All finds work will be undertaken according to the guidance given in *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (Institute of Field Archaeologists, 2001). When appropriate expertise is not available in-house, the Trust uses a wide range of external specialists for examining and conserving archaeological finds, which include Arcus at Sheffield University for skeletal remains, Birmingham University Archaeology Field Unit for examining environmental samples; Alex Gibson for Prehistoric pottery; Jeremy Evans for Roman pottery. Radiocarbon dates are usually obtained from Beta Analytic, Miami.

As excavation of features during trial trenching is limited only a small amount of finds were expected to be recovered. The topsoil contained modern and nineteenth century artefacts, but these were considered to be of low archaeological value, and constraints on time prevented their collection. All artefacts found in archaeological features were retained, and the provenance of these was recorded by trench and by feature. Finds of a medieval date or earlier were collected even when unstratified, and recorded by trench. Three-dimensional co-ordinates for finds were not considered appropriate at this stage of the work, although this is standard practice during full archaeological investigation. Finds were bagged and labelled on site and stored appropriately for further specialist analysis. A full list of finds is included as appendix II, and a report on the lithics forms appendix III.

3.4 The report

This report details and synthesise the results of the field evaluation, and provides mitigation recommendations for each of the sites. The results have been considered in the light of current archaeological knowledge and research priorities to help inform the mitigation strategy.

The report includes a description of the geophysical survey results, with the plots included as appendix IV. The results of the trial excavation has been summarised for each trench. A full description of each context was deemed to be inappropriate to this report, and the site records can be consulted at Gwynedd Archaeological Trust, where they are archived under project number G1701. The location of each trench is shown on figure 1, but only those trenches containing features of interest have been illustrated in detail.

4. RESULTS OF GEOPHYSICAL SURVEY

4.1 Introduction

The results presented here relate to the geophysical survey only, and are as presented to the field team undertaking the trial excavation. The results of the trial excavation are contained within section 4.2 below. The survey results for each grid are described below, and an illustration for each is given in Appendix I. Each illustration includes an X-Y plot, grey scale plot, and archaeological interpretation.

The survey area produced results with a medium to high level of background noise caused by ferrous oxides in the subsoil and bedrock. The survey was therefore not expected to detect fine detail in archaeological features or very weak anomalies. It should also be stressed that geophysical survey can produce evidence of archaeological features but an *absence of features on the survey cannot be taken to reflect an absence of archaeology in the ground*.

4.2 Survey results

Grid A
(No trial trenches)
A small area of two 20m grids (800 sq. m) was surveyed in order to assess the likelihood of survival of site 5 (Enclosure and structure). The survey results were dominated by an extremely strong anomaly corresponding to a buried pipe (a) with a further area of increased noise (c) indicating a 20m wide strip of clearance associated with the pipeline. A small, strong anomaly (b) indicative of the presence of an

iron object is unlikely to be of significance being on the edge of the disturbed area. The site can be assumed to have been destroyed apart from the very corner of the enclosure, which can be seen as a low earthwork in the field.

Grid B
(Trenches 8, 9)
An area of three 20m grids (1200 sq. m) was surveyed in order to assess a level area in the field. The area also included the edge of one of the hollows previously interpreted as ponds (site 2). There were fairly high levels of background noise across all of the area with three areas (a, b and c) producing slightly higher levels that could either be indicative of archaeological features or local changes in the subsoil. Anomaly *a* corresponded to the hollow and was most likely to be archaeological. Anomalies *b* and *c* were more likely to be a result of natural subsoil variations.

Grid C
(Trench 14)
An area of four 20m grids (1600 sq. m) was surveyed to the north of site 7 (Well). The most noticeable feature of the results was a series of short narrow anomalies (b) scattered across the survey area. This type of anomaly is usually indicative of plough scarring on the top of the subsoil. Anomaly a appears to be a result of iron pipework in the roof of the well.

Grid D
(Trench 4)
An area of four 20m grids (1600 sq. m) was surveyed in order to further investigate a recumbent stone (site 9). The results showed a noticeable level of larger scale gradual changes in the magnetic response usually associated with the underlying geology (e.g. anomaly *b*). The stone itself produced an unusually strong magnetic dipole. This result could be interpreted in several ways.

(i) The stone itself could be strongly magnetic.
(ii) There could have been an attempt to break up the stone using a fire setting technique, where a fire is lit over the stone and cold water is then poured onto it causing the stone to crack
(iii) There could be a large iron object associated with the stone.

Grid E
(Trench 3)
An area of four 20m grids (1600 sq. m) was surveyed alongside the scheduled area around Ty Mawr standing stone. The area around the stone had already been surveyed by Cadw with rather inconclusive results. The results were almost totally featureless with only one linear anomaly at the west of the survey that is best interpreted as a field drain.

Grid F
(Trench 2)
An additional area of four 20m grids (1600 sq. m) was surveyed to the south-east of the stone. Several anomalies were detected towards the centre of the trench. Anomaly a was rather poorly defined and could be interpreted as being either geological in origin or the ploughed out remains of a field bank. Anomalies *b* and *c* appear to be geological but the overlapping anomalies in this area could include some archaeological features.

Grid G
(Trench 1)
An area of four 20m grids (1600 sq. m) was surveyed in order to investigate the north-western part of site 10 (Pen-y-Lone/Bonc-deg). A roughly rectangular mass of high readings with strongly defined limits of at least 18m x5m was detected on the north-east edge of the survey area. The unusually high readings in this area could be caused by burning or the presence of large amounts of iron.

Grid H
(Trenches 17, 18)
A strip of four 20m grids (1600 sq. m) was surveyed along a level area between two rocky outcrops. The results revealed a well defined linear anomaly running diagonally across the north-eastern half of the survey area. This anomaly appears to correspond to one of the boundaries shown on the 1817 tithe map.

Grid I
(Trench 13)
An area of four 20m grids (1600 sq. m) was surveyed in order to try and locate site 6 (Tyddyn-Pioden). No definite archaeological features were detected. The results reflect the underlying geology along with the topography of the area. The ground falls away to the north-east of the survey area and this is reflected in anomaly *d*. Three parallel anomalies *a*, *b* and *c* appear to have a geological origin but are somewhat unusual and could be worth further investigation.

Grid J
(Trenches 19, 21)
An area of four 20m grids (1600 sq. m) was surveyed. No anomalies were identified that could be attributed to archaeological features. Three very faint and diffuse anomalies (a, b and c) were identified but these are most likely to reflect changes in the natural subsoil.

Grid K
(Trenches 24, 26)
An area of six 20m grids (2400 sq. m) was surveyed in order to assess the remains of south-eastern part of Pen-y-Lone/Bonc-deg (site 10). There was a fair amount of background noise and diffuse geological variations in this area. Three areas however produced anomalies with a pronounced archaeological character. The most noticeable anomaly (anomaly *a*, particularly on the trace plot) is visible as a series of 'iron spikes' and less well defined linear anomalies on the northern edge of the survey area. This type of response is typical of may collapsed buildings and may be produced by the remains of the walls and ferrous debris such as roofing nails. This would appear to be a good candidate for the remains of the buildings associated with site 10.

A further area of less intense noise and vague anomalies (b) lies to the south-west of anomaly b, the responses are more typical of burning and could well represent further, and possibly earlier, settlement. A further curvilinear anomaly (c and d) with a possible break at the southern end is not obviously associated with either a or b and could represent an early enclosure.

Grid L
(No trenches)
An area of three 20m grids (1200 sq. m) was surveyed in a low-lying hummocky area designated as site 11 (unidentified earthworks) in the initial assessment report. The survey results were unusually even with only one small visible anomaly (a), which is best interpreted as a plough scar.

Grid M
(Trenches 31, 36)
An area of four 20m grids (1600 sq. m) was surveyed along the top of a small plateau between Trefignath burial chamber and Ty Mawr standing stone. The southern part of the survey was featureless. There was however a noticeable concentration of higher readings at the northern end. These were tentatively interpreted as two roughly circular anomalies and one linear feature. This could represent a pair of roundhouses or an area of ritual activity.

Grid N
(Trench 40)
An L-shaped area of ten 20m grids (4000 sq. m) was surveyed, running along the slope below Trefignath burial chamber and then down-slope across the edge of a mound in the lower part of the field. The results were dominated by the effects of the local geology with typical diffuse anomalies visible across most of the field e.g. *a* and *b*. Features *c* and *d* may also be geological or could be interpreted as ditches or drains.

Grid O
(Trenches 42, 48)
An area of six 20m grids (2400 sq. m) was surveyed. The most noticeable anomalies in this area were a series of parallel linear features running across the survey (a, b and c). The anomalies appear to correspond to a series of modern drains running across the field. The south-eastern half of the survey is dominated by geological noise (c). An intriguing arc of a larger anomaly (d) can be seen in the central part of the survey. This is most likely to be geological but could also be interpreted as a diffuse archaeological feature.

Grid P
(Trenches 51, 52, 54)
An area of four 20m grids (1600 sq. m) was surveyed over the area used for a topsoil storage area during the construction of the A55. One of the aims of the geophysical survey was to ascertain whether the area had been damaged or merely covered up during the topsoil storage and removal. The survey results were unusually noisy and there were several areas of increased noise (a to f). The noise was however not entirely random and some faint linear features were visible towards the centre of the survey area (c). These anomalies may represent plough scars or, along with the areas of noise, other buried archaeology. They strongly suggest that the area was not cleared to below the top of the subsoil and that archaeology could potentially have survived.

Grid R
(Trenches 55, 56, 57)
An area of eight 20m grids (3200 sq. m) was surveyed across a level area between outcrops of rock to the west of Trefignath burial chamber. The survey was dominated by fairly low level diffuse responses which appear to be of geological origin e.g. *a*, *b*, and *c*. One large magnetic dipole *c* could be of archaeological interest being too large for a piece of stray iron and of similar character to hearths and other undisturbed burnt features.

Grid S
(Trenches 61, 64)
An area of six 20m grids (2400 sq. m) was surveyed to the south-west of Trefignath burial chamber. The results were dominated by responses from the underlying geology, e.g. anomalies *a-c*, and no features of archaeological character were identified.

5. RESULTS OF TRIAL TRENCHING

5.1 General comments

Conditions for the fieldwork were generally good, with dry sunny days predominating, and only a few very wet days. The topsoil was found to be generally thin and contained a considerable amount of late 19th century debris including pottery, ironwork and the occasional coin, all thought to be derived from manuring activities. The spoil from some of the trenches was metal detected by Mr Archie Gillespie who recovered further 19th century objects. An almost total absence of flints and other earlier objects in the topsoil was felt to be worthy of comment. The subsoil comprised a very wide variety of glacial tills ranging from hard red clays to stony gravels. It is also worth noting that the whole assessment area was heavily improved after it was bought by Rio Tinto during the construction of the aluminium works. Information provided by the JCB driver, Mr Clive Jones of Bethesda, suggests that large amounts of material were imported from the construction site in order to fill in hollows and to dispose of unwanted materials.

The results from each of the trial trenches are presented below along with discussion, if necessary, and recommendations for further work. Newly discovered sites have been allocated new site numbers following on from the sequence presented in the initial assessment report (GAT report 389). All new sites have been placed in one of the following categories in order to define the importance of the archaeological resource.

Category A - Sites of national importance
Scheduled Ancient Monuments, Listed Buildings and sites of schedulable or listable quality, *i.e.* those that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both. Sites that are scheduled or listed have legal protection.

Category B - Sites of regional or county importance
Sites which would not fulfil the criteria for scheduling or listing, but which are nevertheless of particular importance within the region.

Preservation in situ is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be judged by Cadw to be an acceptable alternative.

Category C - Sites of district or local importance
Sites which are not of sufficient importance to justify a recommendation for preservation if threatened. Category C sites nevertheless merit adequate recording in advance of damage or construction.

Category D - Minor and damaged sites
Sites that are of minor importance or so badly damaged that too little remains to justify their inclusion in a higher category. For Category D sites, basic recording, either in advance of, or during construction should be sufficient.

Category E - Sites needing further investigation
Sites whose importance is as yet undetermined and which will require further work before they can be allocated to categories A - D are temporarily placed in this category, with specific recommendations for further evaluation. By the end of the assessment and evaluation there should be no sites remaining in this category.

5.2 Excavation results

Trench 1
Area: 40 sq. m
Description
The trench was dug over anomaly 'a' in geophysics area G, which was sited over site 10, Bonc Deg cottage. Topsoil was removed to a depth of between 0.3m and 0.4m revealing a 0.5m wide, stone wall foundation and a fragment of a concrete surface (plate 1). The wall and surface were standing on a deposit of rounded cobbles and sand the upper parts of which contained numerous finds of late 19th early 20th century objects. This deposit was found to be over 2m deep, overlying glacial clay subsoil.
Discussion
The large geophysical anomaly was not explained by the presence of the relatively slight archaeological features. The deposit of cobbles and sand appears to be of marine origin and the 19th/20th century debris appears to be the source of the geophysical anomaly. Local accounts of dumping material onto this land, during the construction of the Anglesey Aluminium factory, could go some way to explaining the origin of this deposit. The wall foundation and concrete surface are interpreted as components of the Bonc-deg smallholding (site 10) which survived until land improvements were carried out in the 1960s.
Recommendations for further work
None: the fragmentary nature of the archaeology and recent date of the finds suggest that no significant archaeological features remain in this area. The northern part of site 10 can thus be allocated a new site number (36) and assigned to category D - Minor and damaged sites.

Trench 2
Area: 40 sq. m
Description
The trench was dug over anomalies b and c in geophysics area F. Topsoil was removed to a maximum depth of 0.34m. Two stone filled field drains were revealed along with another similar stone filled feature that terminated part way across the trench. This was interpreted as an earlier field drain that had been ploughed out. A further linear ditch with a fill similar to the ploughsoil but containing no modern finds was interpreted as being a field boundary as depicted on the estate maps of the area.
Recommendations for further work.
None: the archaeological features in this trench were found to be of minor importance

Trench 3 *Area: 40 sq. m*
Description
The trench was dug in a level area to the north of Ty Mawr standing stone. Topsoil was removed to a depth of between 0.3 and 0.5m onto undisturbed subsoil. No archaeological features were identified.
Recommendations for further work.
None: the trench was archaeologically sterile.

Trench 4 *Area: 40 sq. m*
Description
The trench was dug around site 9, a large recumbent stone. Topsoil was removed to a depth of about 0.4m. The stone was found to be the top of a massive, glacial erratic, which was embedded in the

subsoil (plate 2). The strong magnetic response from the geophysical survey was in part due to the nature of the stone and in part to the presence of several fragments of ploughshare found in the topsoil around the stone. A modern stone-filled land drain crossed the northern end of the trench.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 5 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.25 and 0.3m onto undisturbed subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 6 *Area: 40 sq. m*

Description

The trench was dug in a wet area at the base of a steep slope in order to ascertain the potential for water logged environmental evidence. Topsoil was removed to a depth of between 0.2m and 0.3m. The hollow was found to be filled with waterlogged peat although the upper part appeared to have been disturbed at some point in the past (plate 3). The depth of peat could not be determined, as the ground was too soft for the J.C.B. to work on for more than a few minutes at a time.

Discussion

The area has a good potential for recovery of waterlogged environmental samples.

Recommendations for further work.

Sampling and environmental analysis of the peat deposits. This area has been allocated a site number (37) and assigned to Category C - Sites of district or local importance

Trench 7 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.25m onto undisturbed subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 8 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.4m onto undisturbed subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 9 *Area: 40 sq. m*

Description

The trench was dug in order to investigate a large circular depression recorded as a possible pond (site 2) in the initial assessment report. Topsoil was removed to a depth of between 0.3m and 0.75m revealing a rubble filled field drain which ran into a stone filled sump or soak-away. Both features contained $19^{th}/20^{th}$ century pottery. There was nothing to suggest that the circular depression was anything other than a natural hollow.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 10 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.45m and 0.60m onto plough scarred subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 11 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.35m and 0.40m onto undisturbed subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 12 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.35m revealing three stone-filled land drains containing 19th century pottery.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 13 *Area: 40 sq. m*

Description

The trench was dug over anomalies a, b and c in geophysics Grid I, and close to the location of Tyddyn Pioden (Site 6) as shown on the 1817 estate map (Penrhos II, 804). Topsoil was removed to a depth of between 0.4 and 0.5m revealing orange pebbly glacial till. A poorly defined feature consisting of a 1m wide and 0.1 to 0.2m deep, irregular bottomed, gully forming a 180 degree arc of a 20m diameter circle was identified. The fill was found to be very similar to the subsoil but less stony. Occasional small flecks of charcoal were also recorded in the fill.

Discussion

This site was not felt to be of any significant archaeological merit and was interpreted as animal burrowing. No remains were found of Tyddyn Pioden, and it is to be assumed that the single structure shown on the 1817 map has been destroyed and robbed out, leaving little archaeological trace.

Recommendations for further work.

Watching brief during clearance work.

Trench 14 *Area: 40 sq. m*

Description

The trench was dug in order to investigate a linear hollow running across the field to the west of site 7 (well). Topsoil was removed to a depth of between 0.35m and 0.50m. The feature was found to be a stone-filled land drain with low banks on either side. This appears to be the remains of a field boundary shown on the 19th century estate maps.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 15 *Area: 80 sq. m*

Description

Topsoil was removed to a depth of 0.45m revealing natural yellowish brown subsoil with a curvilinear stone filled feature cut into it. This was initially interpreted as a wall foundation. The trench was extended from 40 sq. m to 80 sq. m in order to investigate this feature further.

The feature was found to be a stone filled land drain, with a 90 degree bend in it, that appears to lead to the pond to the north-east of the well.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 16 *Area: 40 sq. m*

Description

The trench was dug in order to investigate a slight hollow. A surprising depth of topsoil was encountered ranging from 0.5m at the south of the trench to 1.8m at the northern end. This was removed revealing orange/yellow clayey subsoil containing a 0.8m diameter, roughly circular patch of burnt clay. A possible curving stone feature was also identified at the northern end of the trench. This could not be investigated, as the sides of the trench were higher than that permitted by health and safety law and were in danger of collapse.

Discussion

No finds were recovered from the features in this trench but the burnt clay patch is indicative of human activity. Such features are often found as part of settlement sites of many periods although the lack of

substantial features in the vicinity suggests either a prehistoric site or a later campfire. The unusual depth of topsoil is probably a result of landscaping during 20th century land improvements.

Recommendations for further work.

Area excavation: The site was not fully investigated due to the depth of the trench and it is recommended that a larger area be excavated in order to allow further examination of the features and their immediate surroundings. The site has been allocated a new site number (38) and allocated to Category E - Sites needing further investigation.

Trench 17 *Area: 40 sq. m*

Description

The trench was dug over anomaly *a* in geophysics Grid H. Topsoil was removed to a depth of 0.40m onto lightly plough scarred subsoil. No archaeological features were identified.

Discussion

The geophysical anomaly was very well defined and it was expected that a substantial ditch and/or bank would have been visible in the trench, relating either to a field boundary or the boundary of Tyddyn Pioden. The lack of any visible features suggests the anomaly was caused by a natural variation in the subsoil (c.f. geophysics area I and trench 13).

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 18 *Area: 40 sq. m*

Description

The trench was dug over an anomaly free portion of geophysics area H. Topsoil was removed to a depth of between 0.45 and 0.6m onto undisturbed subsoil. No archaeological features were identified.

Discussion

It should be noted that the fact that no anomalies were visible on the geophysical survey does not necessarily mean that there is no archaeology present.

Recommendations for further work

None: The trench was archaeologically sterile.

Trench 19 *Area: 40 sq. m*

Description

The trench was dug over anomaly b in geophysics area J. It was unclear whether the anomaly was of geological or archaeological origin. The topsoil was removed to a depth of between 0.35m and 0.4m onto undisturbed subsoil. No archaeological features were identified.

Discussion

It is assumed that the anomaly reflected a natural change in the subsoil.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 20 *Area: 40 sq. m*

Description

The trench was dug over anomaly C in geophysics area J. Topsoil was removed to a depth of 0.5m onto undisturbed subsoil. No archaeological features were identified although two natural linear stony patches were identified in the subsoil, perhaps accounting for the geophysical anomaly.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 21 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.5m, revealing orange and grey gravely subsoil. One circular patch of stones was identified and half sectioned but was found to be a natural change in the subsoil.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 22 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.30m and 0.45m revealing yellowish brown subsoil and bedrock. A stone filled field drain was cut into the subsoil.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 23 *Area: 40 sq. m*
Description
Topsoil was removed to a depth of 0.3m revealing patchy yellow and grey subsoil. A single stone filled field drain was visible at the south-east end of the trench.
Recommendations for further work
None: the archaeological features in this trench were found to be of minor importance.

Trench 24 *Area: 90 sq. m*
Description
The trench was dug in order to investigate anomaly a in geophysics area K. This anomaly had been interpreted as being the remains of Pen-y-Lone farmstead (site 10). Topsoil was removed to a depth of about 0.35m revealing a number of archaeological features. The trench was extended on both the northern and southern sides to allow interpretation of the features. Two wall foundations were identified (fig. 3, features a and b) (plate 4). A 6m straight length of wall (a) constructed from roughly dressed stone blocks and with surviving facing was recorded at the north-east end of the trench. Another length of wall (b) was recorded 4m to the west of the above. This was constructed from undressed stone with occasional facing surviving facing on both sides. Several sherds of post-Medieval pottery were associated with wall a. No finds were associated with wall b. Five patches of stone spread were visible in the trench (c-f). Spread c contained post-medieval pottery. The other spreads remained undated. Spread e was overlain by a deposit of dark brown clayey silt (f) which was in turn partially disturbed by patches of very recently deposited yellow clay containing barbed wire and plastic.
Discussion
The above features are interpreted as the plough damaged remains of Pen-y-Lone farm, which was destroyed some time between 1817 and 1889. Some of the features date from the later part of the 19th century and others may be earlier. The site should be classified as Category C (sites of district or local importance). This category consists of sites that not of sufficient importance to justify a recommendation for preservation if threatened. Category C sites nevertheless merit adequate recording in advance of damage or destruction. Site 10 should now be redefined as Pen-y-Lone and not include Bonc-Deg (now site 36).
Recommendations for further work
Excavation and recording. The site should be excavated and recorded in advance of any disturbance.

Trench 25 *Area: 40 sq. m*
Description
The trench was dug over a mound close to site 10. Topsoil was removed to a depth of between 0.6 to 0.7m onto undisturbed orange stony subsoil. No archaeological features were identified.
Recommendations for further work.
None: the trench was archaeologically sterile.

Trench 26 *Area: 80 sq. m*
Description
The trench was dug over anomaly b in geophysics area K. Topsoil was removed to a depth of between 0.3 and 0.6m revealing several archaeological features. Two rough stone structures (a and b, Fig 3) and a capped drain (c) were identified after initial clearance (plate 5). Carefully constructed capped drains are usually associated with settlement sites as opposed to land drainage. The south-western end of the trench was therefore extended in order to investigate these features further. One of the stone features was found to be curvilinear, possibly forming an arc of wall foundation. Further examination of this feature produced three roughly datable sherds of pottery. Two small sherds of a decorated Samian ware (Terra Sigillata) vessel were recovered. This is a type of relatively high status slip-coated tableware produced in Gaul and is found in Britain from the first to the early third centuries AD. The rim of a vessel with a black gritty fabric, possibly an abraded sherd of Category 1 black burnished ware from Dorset, was also recovered. This is another type of pottery associated with Roman and Romano-British sites and was exported from the south of England from about 120 AD until the fourth century. These finds strongly suggest that the curvilinear feature is part of the wall of a Romano/British roundhouse with a projected external diameter of around 14m. The capped drain is therefore likely to have formed part of the underfloor drainage of the house. Two stone spreads and one linear feature

both of possible Romano-British date along with a modern field drain were also identified and recorded.

Discussion

The finds from this site clearly date it to the Romano-British period and it is probable that only a small part of a Romano-British hut group has been uncovered. This type of site varies considerably and can range from a single hut to an extended enclosed settlement. The shallow topsoil and intensive cultivation of the area appears to have resulted in a partial truncation of the archaeological deposits with some floor levels having been destroyed. This site should therefore be allocated to Category B (sites of regional or county importance) and has been allocated a site number (39).

Recommendations for further work

A programme of geophysical survey using high resolution magnetometer and resistivity survey, combined with trial excavation, would identify the limits of the site. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, complete excavation and recording might be judged to be an acceptable alternative.

Trench 27 *Area: 40 sq. m*

Description

The trench was dug along the ridge to the south-west of trench 26. The thin stony topsoil was removed to a depth of around 0.35m revealing undisturbed gravely subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 28 *Area: 40 sq. m*

Description

The trench was dug across site 11, a series of unidentifiable earthworks. Topsoil was of a variable depth ranging from 0.3m to 0.7m. The subsoil was somewhat variable grey and yellow clay containing concentrations of stone. No archaeological features were identified.

Discussion

The unidentifiable earthworks appear to be a result of disturbance to what must be a very wet area during the winter months.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 29 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.3m and 0.6m revealing natural grey clay and gravels. A shallow humic layer had accumulated in a natural hollow.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 30 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.45m and 0.55m revealing reddish brown gravely subsoil. No archaeological features were identified.

Recommendations for further work.

None: the trench was archaeologically sterile.

Trench 31 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.45m onto yellowish brown stony subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 32 *Area: 40 sq. m*

Description

The trench was dug about 25m to the south-east of the Site 10 Pen-y-Lone remains. Topsoil was removed to a depth of 0.3m revealing orange/brown clayey natural with three features cut into it. Two linear features containing stone rich fills were probably land drains. A sub-circular pit with a diameter

of 1.5m and a depth of 0.2m was excavated. This was filled with stones and topsoil and produced no dating evidence.

Discussion

The pit was not felt to be of any significant archaeological value and could have been formed when a stone was dragged from the subsoil by the plough.

Recommendations for further work.

None: the archaeological features in this trench were found to be of minor importance.

Trench 33 *Area: 40 sq. m*

Description

The trench was dug at the bottom of a steep slope overlooking the lower ground at the north-east of the site. Topsoil and an accumulation of hill-washed deposits were removed to a depth of between 0.55m and 1.10m. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 34 *Area: 40 sq. m*

Description

The trench was dug across a short semicircular prominence, which lies immediately south-west of, and above, a marshy area. Topsoil was removed to a depth of between 0.2m and 0.35m revealing what appears to be a roughly cobbled area extending over all but the easternmost 4m of the trench. The surface was sectioned in two places and was found to be somewhat variable but consisting predominantly of rounded pebbles 30 to 40mm in diameter pressed into hard yellowish brown clayey subsoil. A selection of bovine teeth and two flint flakes (see flint report) were recovered from the cobbled surface.

Discussion

The two flint flakes are not enough to date this feature with certainty, as they could be residual finds originating from the ploughsoil. The extent of this feature is unknown and more information is required before it can be securely dated. The site should therefore be allocated to category E (sites with archaeological potential requiring further evaluation) and added to the site list (site number 40). The site stands on a shelf between a low cliff and a steep slope into a marshy area. Both the topsoil and subsoil appear to be very thin suggesting that geophysical survey may be of limited value.

Recommendations for further work.

A programme of field evaluation should be undertaken to ascertain the extent and status of the feature.

Trench 35 *Area: 40 sq. m*

Description

The trench was sited in a level area between two rocky outcrops. Topsoil was removed to a maximum depth of 0.45m revealing undisturbed orange/brown natural subsoil and bedrock. No archaeological features were identified.

Recommendations for further work

None: The trench was archaeologically sterile.

Trench 36 *Area: 50 sq. m*

Description

The trench was excavated in order to investigate anomalies A to C in geophysics area M. It was discovered after excavation that the trench had been positioned about 10m too far to the west. Topsoil was removed to a maximum depth of 0.6m revealing yellowish brown gravely subsoil. A sub oval feature with dimensions of 2.1m x 0.85m was located about half way down the trench. The trench was extended to reveal the full extent of the feature. It was noted that the JCB had pulled a large stone out of the top of the feature. The eastern half of the feature was excavated and the western half was partially excavated. The cut was found to be roughly in the shape of a wide-waisted figure 8 possibly indicating the presence of two closely spaced pits (plate 6). It was steep-sided 0.36m deep with a slightly convex base. It was noted that there was no evidence suggesting that one pit was cut through the other. The pits originally contained two large stones with dimensions of 0.55 x 0.46 x 0.25m and 0.70 x 0.50 x 0.25m although one had been dragged out by the JCB. The *in situ* stone appeared to be held in place in the centre of the western pit by four large stones. The entire feature was filled with stones within a uniform mid/dark brown clayey silt matrix. The stones in the eastern half were concentrated in the central part of the fill and consisted of a variety of larger stones, typically 0.15 to

0.25m in length along with smaller stones some of which were firecracked. Two small concentrations of charcoal were identified within the matrix, which were sampled.

Discussion

The function and date of this feature are unknown, although the lack of the post-Medieval debris in the topsoil across the whole site suggests that it is not modern. The site stands in a prominent position, and lies close to the line of sight between Ty Mawr standing stone and Trefignath burial chamber. This raises the possibility of ritual function, although it should be noted that neither of the stones could have protruded much above ground level and neither was broken. It is also possible that the pits could have some structural significance. There was enough charcoal recovered from the feature to allow an AMS radiocarbon date to be obtained. The site should therefore be allocated to category E (sites with archaeological potential requiring further evaluation) and added to the list of sites (site 41)

Recommendations for further work

Further area excavation: The trial trench was not large enough to ascertain whether the site stands alone or forms part of an larger feature or group of features. The geophysical survey results also suggest further activity to the north-east. It is therefore recommended that a larger area excavation be carried out around the site.

Trench 37 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.5m onto undisturbed subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 38 *Area: 40 sq. m*

Description

Topsoil was removed to a maximum depth of 0.6m revealing natural yellow clayey subsoil with manganese panning along with bedrock. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 39 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.4 and 0.55m revealing variable orange and grey clayey subsoil containing gravel patches. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 40 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.4 and 0.5m revealing undisturbed orange and grey gravely subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 41 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.5m revealing very variable subsoil containing hard cemented gravel and yellow clays over bedrock. Two parallel stone filled land drains crossed the centre of the trench.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 42 *Area: 40 sq. m*

Description

Topsoil was removed to a fairly uniform depth of 0.6m. The top of the natural subsoil was cemented by an exceptionally hard layer of manganese panning which in places formed a solid sheet up to 3cm thick. A linear feature was cut through this. The feature was 0.5m wide and 0.15m deep with a u shaped profile. It was filled with a mid yellowish brown clayey silt containing about 40% mixed stones and no dating evidence. There were not enough stones in the feature for it to function as a field drain.

A linear feature running downhill in a wet area can still be assumed to have provided some sort of drainage.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 43 *Area: 40 sq. m*

Description

The trench was opened on a small hillock. Topsoil was removed to a depth of between 0.5 and 0.75m revealing mixed natural sands and gravel. Two features were identified. One was a modern animal burial, which was not further investigated. The other was a subcircular hollow with a diameter of 0.35m and depth of 0.15m containing dark brown soil and chunks of charcoal. The excavators suggested that a tree root had been dug out and burnt in this location. Charcoal samples were however retained.

Discussion

There was nothing to suggest that this was an archaeological feature of any importance.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 44 *Area: 40 sq. m*

Description

The trench was dug over the location of two small buildings associated with Site 13 (Trefignath Farm) shown on the 1817 Trefignath estate map. The topsoil was removed to a depth of 0.23 to 0.45m. The natural subsoil was found to be very variable in this location with a patches of clay, stones gravel and smashed bedrock all occurring in the trench. Two walls had survived along with a field drain. The walls were both badly plough damaged but retained fragments of facing. The limited area of the trench did not allow any structures to be defined but it can assumed that these features relate to the buildings shown on the estate map.

Discussion

The site can be considered to be of local importance (Category C).

Recommendations for further work

Excavation and recording of the full extent of the buildings.

Trench 45 *Area: 40 sq. m*

Description

The trench was dug in the lower part of the field close to a boggy area. Topsoil was removed to a depth of between 0.4 and 0.5m revealing yellow and grey subsoil with five roughly parallel linear features cu into it. Four were found to be modern field drains and one a U shaped cut 1.2m wide and 0.3m deep filled with soft brown silty soil. This appears to correspond to a field boundary shown on the Trefignath estate map.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 46 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.7 and 1.1m revealing reddish brown stony subsoil containing a single large glacial erratic. A damage stone filled field drain was also located at the extreme north of the trench.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 47 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.5m onto yellow and grey clayey subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 48 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.55m onto plough scarred orange-brown subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 49 *Area: 40 sq. m*

Description

The trench was dug over anomaly e in geophysics area O in order to determine if it was a geological anomaly or an archaeological feature. Just over half a metre of topsoil was removed revealing orange subsoil and bedrock. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 50 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.3m to 0.75m revealing undisturbed stony greyish brown subsoil. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 51 *Area: 40 sq. m*

Description

The trench was dug in an area that was used as a topsoil storage dump during the construction of the A55 in late 2000. Topsoil was removed to a depth of around 0.6m revealing that the original ground surface was undisturbed and a layer of imported topsoil had been left behind. The trench was found to contain a large number of archaeological features. The features were in general not excavated but were recorded in plan (Fig. 4) and photographed (plate 7). At the eastern end of the trench were two substantial, possibly intersecting, stone capped drains (a and b). A spread of angular and burnt stones (c) filled most of the western end of the trench. This was 6.5m wide and of unknown length and was bounded on the east by a possible ditch (d). A fragmentary stone wall (e) was standing on the stone spread (c) and this appeared to be associated with a deposit of darker gravel (f) again overlying the stone spread. The stone spread was cut by a silted field drain. A stone lined pit or post hole (h) was identified close to the centre of the trench and a modern field drain (i) crossed the middle of the trench. Further stone features were observed in the eastern half of the trench but these were not well defined and were not investigated. None of the features produced any dating evidence, which suggests a pre-19th century date, as does the fact that no structures are recorded in this area on maps or documents of the 18th and 19th centuries. The excavated surface was covered with a water permeable membrane before backfilling.

Discussion

The trench was found to contain a wealth of undated archaeological features most of which did not appear to be modern. The extent and date of the features remains unknown. However, present evidence would suggest the site is of at least regional importance (Category B), although further work may require re-assessment of this. The site has been allocated number 42.

Recommendations for further work

Additional geophysical survey and trial excavation is required to ascertain the status and extent of the remains. Full excavation will be required if the remains are to be disturbed.

Trench 52 Area: 40 sq. m

Description

Topsoil was removed to a depth of 0.45m onto undisturbed natural grey and orange gravels. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 53 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of between 0.4m and 0.8m revealing natural grey clay and gravels. No archaeological features were identified.

Recommendations for further work
None: the trench was archaeologically sterile.

Trench 54 *Area: 40 sq. m*
Description
This trench was dug about 15m to the north-west of trench 51 in order to assess the extent of the features found therein. The trench was again dug in the area that had been used as a topsoil storage dump during the construction of the A55. Topsoil was removed to a depth of between around 0.6 and 0.85m removing the original ground surface and a layer of imported topsoil. The trench was found to contain a large amount of archaeological features (plate 8). The surface was cleaned by hand. The features were not excavated but were recorded in plan (Fig. 4) and photographed. They consisted of a series of linear and curvilinear cuts running at close to 90 degrees across the trench. Feature (a) was interpreted as being a 2.8m wide ditch and this was cut by a linear stony feature (b). Feature c was a 1.8 m wide cut of debatable shape (due to the width of the trial trench). Feature d was interpreted as a 0.8m wide subcircular pit, cutting narrow linear feature e. Feature f appeared to be a truncated feature with a fill stones some of which were firecracked. Feature g was thought to be a field drain. Feature h appeared to be a part of a larger curvilinear cut and feature i was a somewhat irregular stony feature containing firecracked cobbles. A heavily abraded rim sherd of fine grained pottery tentatively dated to the Roman period was recovered from this surface.
Discussion
The features in this trench can presumably be seen as a continuation of the activity in trench 51 and should be seen as part of the same site (42). The recovery of an apparently Roman or Romano/British pottery sherd adds weight to the hypothesis that this is a site of some importance. It should however be noted that the pottery could be residual and be unconnected with feature i. For further discussion see trench 51.
Recommendations for further work
See trench 51.

Trench 55 *Area: 40 sq. m*
Description
The trench was dug over anomaly d in geophysics area R. Topsoil was removed to a depth of between 0.45 and 0.6m revealing very variable natural subsoil and two features neither of which corresponded to the geophysical anomaly. A 0.74m wide, linear ditch was found to cross the centre of the trench. This was sectioned and was found to be U shaped and 0.26m deep. The fill was uniform, soft, mid brown clayey silt containing occasional stones. Part of a somewhat irregular sub-circular scoop about 0.4m in diameter was located on the western edge of the trench. This was found to contain two layers of humic fill along with some redeposited subsoil. No finds were recovered from either feature.
Discussion
The geophysical anomaly was presumably caused by a piece of iron in the topsoil. The ditch was similar in form and contents to other boundary/drainage ditches found elsewhere on the development area and probably dates from the earlier part of the 19th century. The scoop could well have been formed by organic material accumulating in a hollow formed by the removal of a large stone from the subsoil during land improvements.
Recommendations for further work
None: the archaeological features in this trench were found to be of minor importance.

Trench 56 *Area: 40 sq. m*
Description
The trench was dug over anomaly b in geophysics area R. Topsoil was removed to a depth of 0.35m revealing light greyish brown subsoil and two modern stone filled field drains. The feature producing the geophysical anomaly was clearly visible as a strongly cemented patch of subsoil containing a high percentage of iron panning.
Recommendations for further work
None: the archaeological features in this trench were found to be of minor importance.

Trench 57 *Area: 95 sq. m*
Description
Topsoil was removed to a depth of 0.4m. The most noticeable feature was a 2m wide ditch (a) running diagonally across the south-eastern end of the trench. Careful cleaning revealed a narrow subcircular slot (b) cut by the ditch (plate 9). The trench was extended in order to trace the continuation of the slot

on the other side of the ditch. The full extent of the slot was not revealed but it appeared to form a roughly egg-shaped feature with projected dimensions of 8 x 6m. There were no surviving features on the interior of the area bounded by the slot. The slot was on average 0.25 m wide and 0.03 to 0.06m deep and filled with a firm black humic matrix. A single beach cobble of unusual blood red chert that had been shattered, probably by heat, was recovered from the fill (appendix III). Further features were partially uncovered in the trench just to the north-west of feature b comprising a linear stony feature (c) and a pit containing iron working slag (d). No further investigation was carried out.

Discussion

The features in the trench could be described as having a prehistoric character and were certainly not modern. The presence of iron working debris, particularly in an early context, makes this a site of some significance. This site (new site number: 43) should therefore be allocated to Category B (sites of regional or county importance).

Recommendations for further work

The extent of the site has yet to be uncovered. The first recommendation would be to extend the area of geophysical survey, as metal working sites are particularly suited to detection by gradiometer survey. Further excavation would also be required to determine the full extent of the site. The slag should also be subjected to specialist analysis. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, complete excavation and recording might be judged to be an acceptable alternative.

Trench 58 *Area: 40 sq. m*

Description

Topsoil was removed to a maximum depth of 0.4m revealing undisturbed clayey subsoil and bedrock. Occasional pieces of twiggy charcoal were noticed among the soil over the bedrock, which were probably the products of an agricultural bonfire.

Recommendations for further work

None: the archaeological findings from this trench were found to be of minor importance.

Trench 59 *Area: 40 sq. m*

Description

The trench was dug adjacent to the ditch at the far south east of the survey area. Topsoil was removed to a maximum depth 0.4m revealing rather wet clayey subsoil with a single linear feature cut into it. The feature was 1.8m wide and was presumed to be a ditch. It was sectioned and found to be a field drain containing 19th century pottery.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 60 *Area: 40 sq. m*

Description

The trench was dug across a slightly raised level area between two rock outcrops. Topsoil was removed to a depth of 0.45m revealing natural orange clays. No archaeological features were identified.

Recommendations for further work

None: the trench was archaeologically sterile.

Trench 61 *Area: 40 sq. m*

Description

The trench was dug along the edge of the survey area to the south-west of Trefignath burial chamber. Approximately 0.40m of topsoil was removed revealing orange/brown sandy silt subsoil with two modern land drains and a small circular cut into it. The circular feature was 0.8m in diameter and was half sectioned. It was found to be 0.15m deep with a uniform fill similar to the topsoil and was interpreted as a hole where a stone had been pulled from the subsoil by the plough.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 62 *Area: 40 sq. m*

Description

Topsoil was removed to a depth of 0.35m revealing natural yellow and light grey clay subsoil. Three modern field drains crossed the trench but no other archaeological features were present.

Recommendations for further work

None: the archaeological features in this trench were found to be of minor importance.

Trench 63 *Area: 40 sq. m*
Description
Topsoil was removed to a depth of 0.45m revealing natural yellow clay and gravels along with bedrock at the south east end of the trench. No archaeological features were identified.
Recommendations for further work
None: the trench was archaeologically sterile.

Trench 64 *Area: 40 sq. m*
Description
Topsoil was removed to a depth of 0.4m revealing natural yellow and grey clay and silts. No archaeological features were identified.
Recommendations for further work
None: the trench was archaeologically sterile.

6. RECOMMENDATIONS

6.1 Summary of recommendations arising from fieldwork

Seven additional sites were found as a result of the fieldwork, and the status of three former class 'E' sites has been resolved. These, along with the known sites, two of which are both scheduled ancient monuments of national importance, and guardianship monuments in the care of the state, show the area to be both rich in archaeological remains and of high archaeological potential.

It was stressed in the assessment report that the setting of the two scheduled monuments should not be compromised, and that the design of the proposed development must take these into account. This issue remains of particular importance, and the view of Cadw, who manage the sites, needs to be sought prior to application.

The list of sites below contains the principal recommendations to arise out of this phase of work.

Site 6a Tyddyn Pioden
Category D
The estate maps of 1769 (Penrhos II, 772) and 1817 (Penrhos II, 804), showed a building called Tyddyn Pioden some distance east of the present house, although by 1845 (W/Maps 52/1), it had moved west, alongside the road. Geophysical survey (Grid I) and trial excavation (Trench 13) failed to locate any remains of a structure. The lack of archaeological evidence suggests the remains of the former dwelling were heavily robbed out, and that little now remains. The site has therefore been allocated to category D (minor and damaged sites).
Recommendations: *Watching brief during construction works.*

Site 8 Standing Stone
Category A
Field evaluation in the vicinity of Ty Mawr standing stone (Grids E and F and Trenches 2 and 3) did not reveal any archaeological remains other than field drains. No further work is recommended in the immediate vicinity.
Recommendations: *No further evaluation work is recommended in the immediate vicinity of the stone. The setting of the stone is important, and the recommendations contained within Report 389 for keeping both sight-lines visible and preserving the topographical setting of the stone remain of particular importance. It is important to seek the view of Cadw, and it may be necessary to apply for scheduled monument consent for work that affects the setting.*

Site 9 Stone
Category D
A large recumbent stone was noted during the assessment south of the Ty Mawr standing stone. Field evaluation was recommended in the immediate vicinity of the stone to ascertain its status. The geophysical survey (Grid D) showed a noticeable level of larger scale changes in the magnetic response, usually associated with changes in the underlying geology, and the stone itself produced an

unusually strong magnetic dipole. Trial excavation (Trench 4) did not reveal any features of archaeological significance. The site has been allocated to Category D.
Recommendations: *No further recommendations are made for this site.*
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Site 10 Pen y Lon and Site 36 Bonc Deg
Category C and Category D
These were two cottages lying close to one another, each surrounded by a cluster of small fields. The foundations of Bonc Deg were still visible as field remains, but there was no evidence for a structure at Pen y Lon. Field evaluation was recommended to ascertain the status of both structures. The magnetometer survey (Grid G) produced a series of high readings, but no specific features. Excavation (Trench 1) revealed remains of a stone wall and fragments of a concrete surface, both standing on a layer of rounded cobbles and sand. The structural remains were slight, suggesting the site had been heavily robbed out when destroyed in the 1960's. This part of the site has been given a new number (Site 36) and allocated to Category D, and no further work is recommended.

Excavations on the site of Pen y Lon (Grid K and Trench 24) revealed better preserved archaeology, and the site has been allocated to Category C. Full excavation of the remains is recommended at this site.
Recommendations: *Site 36 Bonc Deg: Watching brief during clearance works.*
Site 10 Pen y Lon: Full excavation.

Site 13 Trefignath farm
Category B
Trial excavation (Trench 44) on the site of two structures thought to be the earlier site of Trefignath farm has revealed there is sufficient archaeological potential to warrant full excavation of the remains. The first known reference to Trefignath occurs in 1624, when it was a holding on the estate of Tre'r Gof, and it is thought that the two structures are at least of this date, and possibly earlier. Excavation of late-medieval structures has rarely been undertaken on Anglesey, and our knowledge of the plan and layout of settlements of this date is limited. Results from these excavations therefore have the potential to contribute information of regional, and possibly national, importance.
Recommendations: *Full excavation of the two structures indicated on the 1769 and 1817 estate maps, with any adjacent structures and archaeological remains.*

Site 14 Trefignath burial chamber
Category A
Field evaluation was not undertaken in the immediate vicinity of the monument, because the boundaries of the projected development plots lay a short distance from it. East of the monument Grid N and trenches 38, 39 and 40 revealed no archaeological remains, and west of the monument Grid S and trenches 61 and 64 similarly revealed no archaeological remains. This still leaves the question of the presence and whereabouts of any associated settlement unanswered.
Recommendations: *The preservation of setting, as recommended in Report 389, is of particular importance at this site. The view of Cadw needs to be sought on any design that affects the setting of this site, and scheduled ancient monument consent may be required.*

Site 37 Peat deposits
Category E
An exploratory excavation (trench 6), although limited by the difficulties of digging within waterlogged soils, was undertaken at the base of a break of slope within a large elongated depression which often contains standing water. Further work is required to establish the full depth of the peat and its potential for palaeo-environmental material. However, present evidence suggests it could provide good complimentary material to the results obtained from the peat bog lying north of Trefignath which was sampled in the late 1970's (see Report 389, 4).
Recommendations: *the site is to be assessed for palaeo-environmental potential, and further recommendations will be made following the assessment.*

Site 38 Burnt clay feature
Category E
An unexpected depth of topsoil (up to 1.8m) made full evaluation of this feature difficult, as access to the trench (no. 16) was not possible at this depth. The greater depth of soil is thought to relate to landscaping undertaken in the 1960's. The burnt clay must relate to human activity, but as conditions

made full evaluation impossible, future work must concentrate upon further evaluation by wider area stripping.
Recommendations: *Strip and record an area some 20m in diameter. If the clay is a hearth within a building, this will reveal the full extent of the building, and the existence of any adjacent structures. Full excavation of features will need to be undertaken if merited by the revealed archaeology.*

Site 39 Romano-British settlement west of Pen y Lon
Category B
Excavation of an anomaly revealed by geophysical survey (Grid K) resulted in the discovery of the remains of a round house with internal drains (Trench 26). Three pieces of pottery date the remains to the Roman period. More structures may lie in the immediate vicinity of the discovered remains, and excavations from elsewhere suggest the origins of the settlement may lie in later Prehistoric times. It is important to find the limits of this settlement, so that development in the area does not disturb the archaeological remains. This would be best undertaken by a programme of intensive geophysical survey, using magnetometer and resistivity survey, supplemented by trial excavation. The settlement has been allocated to Category B (regional importance), for which preservation *in situ* is recommended. If, however, it proves necessary to build over the site, then full excavation will be required.
Recommendations: *additional field evaluation involving intensive geophysical survey and trial excavation to ascertain the full extent of the site. Preservation in situ of the remains, or full excavation if the remains are to be disturbed.*

Site 40 Cobbled area
Category E
This site lies on a slight prominence above an area of marshy ground. Excavation (Trench 34) revealed a cobbled area, which was interpreted as being of human origin. It was not possible to ascertain the full nature and extent of the remains; future work is to concentrate upon further evaluation. Excavation may be required if additional evaluation reveals archaeological features of importance.
Recommendations: *Geophysical survey is unlikely to work efficiently here because of the lack of overlying soils. Further field evaluation should therefore be undertaken by trial excavation. An area of 100 sq. m should initially be stripped for cleaning and recording.*

Site 41 Stone settings
Category E
Excavation of geophysical anomalies (Trench 36) revealed two pits containing carefully placed large stones. A concentration of smaller stone, some of it burnt, also lay within the trench. Although the pits were not obviously part of structures, burnt stone is typically found on Prehistoric settlement sites. The remains may, therefore, be part of a Prehistoric settlement, or part of a ritual site associated with the nearby remains of the burial chamber at Trefignath.
Recommendations: *In order to ascertain the date, extent and status of this site it will be necessary to strip, clean and record a wider area around the known remains. This will need to be a minimum of 100 metres square, and possibly larger if the remains continue. Full excavation will be required of the remains, or preservation* in situ, *if the site is considered to be of national importance.*

Site 42 Prehistoric settlement remains
Category B
Excavation within Trenches 51 and 54 revealed a variety of features, including stone capped drains, burnt stone and fragmentary stone walls. Although some of the features undoubtedly relate to the complex of small fields which surrounded Bonc Deg (Site 36), for example feature *i* in trench 54, the other features are interpreted as part of a late Prehistoric and Romano-British settlement. Although there is no firm dating evidence, one sherd of pottery has been tentatively dated as Roman in date, and the features are typical of those found on such sites.
Recommendations: *Further evaluation is required to ascertain the full extent of the remains, and the date and function of the site. Intensive geophysical survey, combined with stripping and recording of an area some 400 sq. metres in extent is recommended. Preservation* in situ *is recommended, but full excavation is required if it is to be disturbed by construction.*

Site 43 Possible Prehistoric site
Category B
Archaeological features of unknown date, but provisionally interpreted as Prehistoric by their character, by their association with iron slag, and by the lack of post-medieval finds, were found during

excavation of Trench 57. Analysis of the slag is required, and further field evaluation to reveal the full extent and character of the remains.
Recommendations: *Geophysical survey and trial excavation by strip and record to reveal the full extent of the site. Preservation* in situ *is recommended for Category B sites, but if development is to take place, then full excavation of the remains will be required.*

The Artefacts
The assemblages from the trial trenches are too small for significant conclusions to be drawn from them. It is more efficient for them to be studied along with the artefacts resulting from the next stage of investigation. However, the slag was sent to Peter Crew, who confirmed that it was iron slag, and a brief report on the lithics appears below in appendix III. A programme of radiocarbon dating will also be included in the next stage.

6.2 Research questions arising from fieldwork results

The results of the assessment and field evaluation have presented a dense concentration of archaeological remains of many periods. A chronological summary will be given below, which takes into account the archaeology within and immediately adjacent to the study areas. Two principal excavations have been undertaken within and close to the study area: the excavation of Trefignath burial chamber undertaken 1977-79 (Smith and Lynch 1987), and the excavation of a Neolithic settlement, Bronze Age barrow and Early Christian cemetery north of Ty Mawr in 1999 (unpublished, but draft report, Kenney 2001) in advance of the construction of the dual carriageway. Pollen samples were taken from a bog north of Trefignath during the tomb excavations, and reported on in Smith and Lynch 1987 (Greig 1987).

Palaeolithic and Mesolithic
Palaeolithic remains are rare, and it is even more rare to find them by traditional field evaluation techniques, particularly as most evidence will have been removed during glaciation. Finds of Mesolithic date are also comparatively rare, though they are known from north and west of the study area. Examination of the pollen sequence in the bog north of Trefignath chamber showed a sequence of birch and open grassland in the Mesolithic period giving way to oak and elm as the climate improved and the full 'climax forest' matured in the Neolithic period. The only hint of Mesolithic activity recovered from the evaluation is a core trimming flake from a narrow blade core, typical of the late Mesolithic (trench 34). However, late Mesolithic radiocarbon dates were obtained from below the Ty Mawr barrow, and at least one substantial posthole on the site belongs to this period (Kenney forthcoming). The search for *in situ* Mesolithic deposits on the northern part of Holy Island should be considered an important research priority, although predicting the location of such deposits is difficult. The Mesolithic/Neolithic transition period, marking the stages in human evolution from hunter-gatherer to settled agriculturist, has not been greatly studied in Anglesey, and any contribution to research in this period would be of national importance.

Neolithic
The importance of the two Neolithic tombs within the study area has been discussed in Report 389. Early Neolithic dates (*circa* 3000 - 4020 BC) have been obtained from the excavations immediately north of the farm at Ty Mawr, and it is important that these be placed in as wide a context as possible. This would include results from palaeo-environmental studies, which may be obtained from Site 37. Some of the Neolithic activity on the Ty Mawr excavations might represent settlement (Kenney 2001), as may the pre-tomb features at Trefignath (Smith and Lynch 1987, 10-11). The pollen analysis (Greig 1987) showed a sequence of woodland clearance to cultivated arable within the later Neolithic, though the record is slightly confused, particularly within the earlier Neolithic period. Neolithic settlement is notoriously difficult to locate, and only one house is known from north-west Wales (that at Llandegai) (Lynch *et al* 2000, 50-51). The location of settlement sites would therefore contribute to a debate of national importance.

Bronze Age
Activity within the Early Bronze Age is evidenced by the standing stone at Ty Mawr, and the barrow located during the Ty Mawr excavations (Kenney 2001). Once again, settlement during this period is very rare, and any contribution to a greater understanding of settlement and land use during this period

would contribute to a debate of national importance. The dislocation that typically marks the earlier from the later Bronze Age is poorly understood, although climatic deterioration undoubtedly played a significant role. Burnt mounds form the commonest site type within the latter period, but none have been found at Ty Mawr. Other settlements are rare, but it has been suggested they should be sought within the earlier phases of the later Prehistoric settlements.

Late Prehistoric and Romano-British
Settlement sites from this period are more common, and several have been excavated within recent years. The finding of two additional sites provides the opportunity of answering more detailed questions concerning density of population, availability and use of resources, development of agricultural techniques, development of metal working technology, site status, and social hierarchies. Pottery studies help establish trading patterns, site activities and site hierarchy. Environmental evidence from these periods is of particular importance, as it provides basic data on vegetation, crop cultivation, and climate change. The chronological sequence is important, particularly at the start of the settlement which may overlap with the Later Bronze Age, and at the end, which may overlap with the Early Christian/Post Roman period.

Early Christian Period
Although several burial sites from this period are known from Holy Island, including one found during the Ty Mawr excavations, no certain settlements are known. The presence of the burial sites certainly indicates settlement, and locating its whereabouts is of particular importance. The starting place has to be the Romano-British settlements, some occupied into the 6th to 8th centuries, but there is little evidence for settlement location after that.

Medieval and Post-Medieval periods
There is no documentary evidence for medieval settlement within the immediate evaluation area, although Tre Gof, in the southern half of the study area, was a settlement in late medieval times, and is a site of particular importance. Further research concerning this site since the assessment report has led to a re-assessment of its importance, and Tre-gof is now to be classified as of regional importance (Class B), and potentially as of national importance (Class A).

An area of research of particular importance in this period is the nature of medieval field systems and their enclosure within the Post-Medieval period. Several strips remaining from the open medieval system are still visible on the 1769 and 1817 estate maps. Information from buried soils and palaeo-environmental sources on these sites may provide valuable evidence for this process, and for the nature of both medieval open and enclosed field systems.

The date of the establishment of farmsteads within the late Medieval and Post-Medieval is one presently poorly understood. Evidence from Trefignath and Pen y Lon will contribute to this debate.

The widespread use of pottery on Anglesey is typically fairly late (often not until the 18th century), and although many concentrations of pottery have been reported on from south and east Wales, such collections are much rarer in north and west Wales. A study of the pottery from Trefignath, Pen y Lon and possibly Bonc Deg and Tyddyn Pioden will provide important additional material for understanding the source and date of pottery vessels, and hence improve our knowledge of trading patterns, technological development and the economy.

6.3 General recommendations

The density of archaeological sites found at Ty Mawr suggests a high level of activity within the area from Neolithic times to the present day. The field evaluation programme has been successful in discovering a number of new sites, but nonetheless there remain large parts of the development area, which have not been evaluated. It is recommended, as a result of the high archaeological potential revealed by the work to date, that additional geophysical survey be undertaken in those areas presently without any indication of archaeological evidence. This particularly involves those areas on the northern part of the site and in the vicinity of the standing stone.

It is also recommended that the site specific geophysical survey is not limited to the immediate confines of each site, but that it should extend to cover the areas between the known sites. This is

important, as it enables relationships between settlements, and between settlement and burial sites to be established, and similarly between field systems and settlement. For the same reason, it is important that site excavation is sufficiently extensive to ensure the wider environs of the site are examined, and not just the core structures.

Seven new sites (numbers 37 – 43) were discovered during the evaluation works. Two of these were identified as settlements of late Prehistoric/Romano-British date (circa 500 BC to 400 AD), and another as a metalworking site of similar date. All were allocated to Category B (Regional importance). The remaining four sites require further work to ascertain their status, and have not, therefore, been allocated to a category of importance. One is a peat deposit, which has potential for adding to our understanding of the past environment. Another is an area of burnt clay, possibly a hearth within a building. The third is described as an area of 'stone cobbling', and the fourth are two pits adjoining pits containing large stones which have been deliberately set in place, although their function is unknown.

Recommendations include full excavation of the three Category B sites, combined with geophysical survey to identify the site limits, and to place the sites within a wider context. Recommendations for the Category E sites are for further evaluation, including extensive geophysical survey and additional excavation. Given the density of archaeological sites within the area it is also recommended that further geophysical survey is undertaken within the northern part of the development area.

Attention is drawn to the importance of the two scheduled ancient monuments (Trefignath burial chamber and Ty Mawr standing stone) and the need to preserve their setting.

7. SOURCES

7.1 Sources in Gwynedd Sites and Monuments Record

Kenney, J, 2000 *Land at Ty Mawr, Holyhead: archaeological assessment*. GAT Report **389**

Kenney, J, 2001 Ty Mawr early Christian cemetery and Bronze Age barrow. In Smith and Kenney, *A55 Anglesey DBFO Scheme updated site interpretation for Ty Mawr, Melin y Plas and Penmynydd*, GAT Report **404**

Kenney, J, forthcoming, Ty Mawr early Christian cemetery and Bronze Age barrow, In *Excavations along the A55*, Hughes and Davidson (eds).

Penrhos estate maps c.1769: Penrhos II. 772 (copy)

Penrhos estate maps: Penrhos III. 208 (copy)

Penrhos estate maps c.1817: Penrhos II. 778 (copy)

Penrhos estate maps c.1817: Penrhos II. 804 (copy)

7.2 Sources in The Anglesey County Archives, Llangefni

Tithe map for Holyhead parish, second schedule 1853

W MAPS 52/1 (1845) A plan of the parish of Holyhead and part of Rhoscolyn, Penrhos Estate plan c.1845

WPE 68/128 Cyttir Bodwedd and Cyttir Tymawr, inclosure in the parish of Holyhead. 1861

7.3 Published sources

Clark, A, 1990 *Seeing beneath the soil: prospecting methods in archaeology*, London

Greig JRA, 1987 Pollen and plant macrofossils. In *Smith and Lynch 1987*, 39-44

Lynch, F, Aldhouse-Green, S, and Davies, J L, 2000 *Prehistoric Wales*, Stroud

Smith CA and Lynch FM, 1987 *Trefignath and Din Dryfol, the excavation of two megalithic tombs in Anglesey*. Cambrian Archaeological Monographs No. **3**, Cardiff

APPENDIX I

Ty Mawr planning study: project design for archaeological evaluation

Prepared for Symonds Group 29/6/01

1. INTRODUCTION

It is proposed to develop an area of land at Ty Mawr Farm, Holyhead, within a plot comprising some 140 ha. An initial archaeological assessment has been undertaken (GAT Report No. 389, November 2000). This project design details the archaeological evaluation work recommended in that report, taking into account the impact upon the site as contained within the *Preliminary Master Plan* (Drawing Number 56080/MP/01 Rev B, but excluding Plots A and J which are no longer to be developed). The design has been requested by Symonds Group Limited on behalf of Welsh Development Agency, and has been prepared by Gwynedd Archaeological Trust. There is no formal brief upon which to base this design, however comments made by the Development Control Officer of Gwynedd Archaeological Planning Service on an earlier design will be taken into account, and a copy of this design will be passed to the Officer for comment prior to the start of any work. This design will adhere to the guidelines specified in *Standard and Guidance for Archaeological Field Evaluation* (Institute of Field Archaeologists, 1993, rev. 1999).

2. THE ASSESSMENT REPORT

Within the assessment report sites were classified into four categories of importance labelled A to D (National, Regional, Local and Other). Recommendations for mitigation were made for each of these sites, depending upon the importance and nature of the remains and the level of impact.

The information available for some sites, however, was insufficient to allow classification, and they were therefore placed into another category, E, until field evaluation work could be undertaken to ascertain their status. Appropriate mitigation recommendations can only be made for these sites following the completion of field evaluation. In addition, recommendations were made within the report for field evaluation of areas of land of unknown archaeological potential.

The work detailed in this design includes both the investigation of Category E sites and areas of unknown archaeological potential through field evaluation, so that their status can be ascertained and appropriate mitigation recommended.

3. FIELD EVALUATION

3.1 Introduction

Field evaluation is defined as ‘a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land or underwater. If such archaeological remains are present Field Evaluation defines their character and extent, and relative quality; and it enables an assessment of their worth in a local, regional, national or international context as appropriate’ (*Standard and Guidance for Archaeological Field Evaluation).*

The aims of this phase of the work are, therefore, to build upon the findings of the archaeological assessment by using field evaluation techniques to determine the presence or absence of archaeological remains and to assess their extent and significance. The known archaeological remains will be used both to help determine the likely location of, and to determine the character of, new archaeological findings.

Two principal techniques will be used to undertake the Field Evaluation at Ty Mawr. The first, non-intrusive, phase will be undertaken by magnetometer survey. This is the preferred method for area survey (*Geophysical Survey in archaeological field evaluation*, English Heritage, 1995), and previous experience of its use within the area, undertaken during field evaluation in advance of the construction

of the A55 road, shows the technique to be effective within the geological and soil conditions which exist at Ty Mawr. Magnetometer scanning (as opposed to detailed survey) is not, in the experience of this Trust, a useful technique for the evaluation of large areas: the results have tended to confuse rather than aid evaluation. It is not, therefore, the intention to use this technique during this project.

Trial excavation will form the intrusive phase of the field evaluation, details of which are given below.

The amount of survey to be undertaken has been calculated on a percentage based upon the area of the plots to be developed. Magnetometer survey will be undertaken at 10%, and trial trenching at 1%. These levels are based on previous work undertaken in Anglesey by GAT, when subsequent watching briefs have revealed that no archaeological sites of significance remained undiscovered following evaluation at this level. Higher levels of sampling are, on present experience, unlikely to result in the discovery of a significant number of sites.

3.2 Magnetometer survey

This survey will be carried out using a Geoscan Research Fluxgate Gradiometer. A magnetometer survey detects variations in the earth's magnetic field caused by the presence of iron in the soil. This is usually in the form of weakly magnetised iron oxides, which tend to be concentrated in the topsoil. Features cut into the subsoil and back-filled or silted with topsoil contain greater amounts of iron and can therefore be detected with a gradiometer. Strong readings can be produced by the presence of iron objects, and also hearths or kilns. The surveys will be carried out in contiguous areas of 20m by 20m, and readings will be taken every 0.5m, giving 800 readings per grid. Data will be presented in a series of X-Y and Grey-scale plots, and location of each of the grids will be shown on a map at a scale not less than 1:2500.

3.3 Trial excavation

Trial trenches will usually be machine dug, and cleaned by hand when archaeology is reached. All features encountered will be planned and recorded in plan, but not excavated unless further evaluation is thought necessary. The size of each trench will reflect the requirements of the site, but will typically measure 20m long and 2 m wide. Site plans will be at a minimum scale of 1:20, and section drawings will be at a minimum scale of 1:10. All features will be photographed.

All trenches will be back-filled by machine with the material removed, but not re-turfed by hand or fully compacted unless arrangements are made to do so in advance.

4. WORK SCHEDULE

4.1 Introduction

The work schedule detailed below is based upon the plot numbers as shown on the 'Preliminary Masterplan', Drawing No. 56080/MP/01 provided by Symonds Group. The plan identifies ten plots labelled A to J within which development may take place, but recent changes have resulted in plots A and J being no longer included for development. Extensive areas of the defined site lie outside the plot boundaries, many of them containing areas of ecological interest. The field evaluation is confined to within the plot boundaries, but if it is decided to develop outside these areas, an appropriate programme of archaeological works will need to be undertaken prior to development.

It is not intended to develop Plot I for a number of years. As this area presently supports a plantation of coniferous trees, it will not be possible to undertaken field evaluation without causing considerable damage to the crop. It is therefore recommended that field evaluation within this plot be delayed until closer to development, following the harvesting and removal of the trees. Evaluation of Plot I is therefore not included within this design.

4.2 Site recommendations

PLOT B
Site 6a Tyddyn Pioden
The earlier estate maps show a property of this name to have been situated further east of the present house. No remains are visible on the ground, but the construction of the carpark by Plot B3 may impact upon buried remains.
Field evaluation: *An additional 1600 sq m of geophysical survey and trial excavation of up to 120 sq m. will be undertaken at the supposed location of this site.*

Site 9 Stone
A large stone lying horizontally within the ground. It will lie close to the new access road.
Field evaluation: *This stone is most likely a glacial field boulder. However, given the near location of upstanding megalithic remains, field evaluation will be undertaken in the area of the stone as part of the area evaluation.*

Site 10 Pen y Lon/Bonc Deg
A series of former cottages and associated fields, which will be impacted upon by the construction of access roads and a roundabout. Slight earthworks are thought to indicate the remains of this site, which is principally known from map evidence.
Field evaluation: *In addition to the area evaluation, geophysical survey of 1600 sq m. and trial excavation of up to 120 sq m will be undertaken on the site.*

PLOT C
8. Standing stone
This scheduled ancient monument lies close to Plot D2. No ground disturbance, nor field evaluation, can take place within the scheduled area, unless scheduled monument consent is obtained from Cadw. Geophysical survey has already been undertaken within this area (see details in the Assessment Report), which did not find any archaeological remains. However, further work will be undertaken immediately outside the scheduled area as part of the area evaluation.
Field evaluation*: To be included within the area evaluation.*

PLOTS G and H
14. Trefignath Burial Chamber
This scheduled ancient monument lies just outside Plot H, and on the other side of the minor road from Plot G. The most likely areas of associated activity, on topographic evidence, lie to the north, south or west. The ground to the east falls away more sharply, and is of a poorer quality. No development is to take place within the immediate vicinity of this site, the closest lying 60m to the east. Where possible, the area evaluation will be positioned close to the burial chamber.
Field evaluation*: To be included within the area evaluation.*

4.3 Area Recommendations

The following table shows the total area in square metres of each plot, the area proposed for geophysical survey, and the area proposed for trial trenching.

Plot	Area sq m	Geophys area sq m	Geophys plots 20m x 20m	TT area sq m	TT trenches 20m x 2m
Plot B	110,000	11,000	27	1100	27
Plot C	29,000	2,900	7	290	7
Plot D	20,000	2,000	5	200	5
Plot E	21,000	2,100	5	210	5
Plot F	22,000	2,200	5	220	5
Plot G	54,000	5,400	14	540	14
Plot H	67,000	6,700	16	670	16
Totals	323000	32300	79	3230	79

The exact location of each of the survey areas will not be specified in detail, as this has been found in the past to be too restrictive, requiring frequent changes. However, an indicative location is shown on Map 1 based on the location of known sites and topography. An initial meeting will be arranged on site with the clients and the Development Control Officer to discuss this layout.

5. REPORT

Following the completion of the evaluation field work, a report will produced, which will detail and synthesise the results, and provide mitigation recommendations for each of the sites. The results will be considered alongside current archaeological knowledge and research priorities to help inform the mitigation strategy.

The evaluation report will include:

a) details of the agreed project design
b) a scale plan showing the location of the surveyed areas and trial trenches
c) the results of the geophysical surveys
d) the results of the trial excavations
e) plans and sections of the each trial trench
f) other illustrations as appropriate
g) a description of the archaeology revealed, including its extent and character, and an assessment of its importance
h) recommendations for mitigation strategies for each site
i) a bibliography of all sources consulted
j) all specialist reports.

6. ARCHIVE

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Sites and Monuments Record) within six months of the completion of the project. All digital data will be written to CD-ROM and stored with the paper archive.

7. DEPOSITION OF FINDS

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Often many of these finds become unstable (ie they begin to disintegrate) when removed from the ground. All finds are the property of the land owner, however, it is Trust policy to recommend that all finds are donated to an appropriate museum where they can receive specialist treatment and study. At the very least the Trust would request access to the finds for a reasonable period to allow for study and publication. All finds work will be undertaken according to the guidance given in *Guidance for Finds Work* (Institute of Field Archaeologists, 1992). The Trust uses a wide range of specialists for examining and conserving archaeological finds, which include Arcus at Sheffield University for skeletal remains, Birmingham University Archaeology Field Unit for examining environmental samples; Alex Gibson for Prehistoric pottery. Radiocarbon dates are usually obtained from Beta Analytic, Miami.

8. TIMING

A time period of 10 weeks has been allowed for the field evaluation programme by the clients, which is to run from 9 July to 14 September. The time required for completing the work will be dependant upon a number of factors, including the quantity of geophysical survey undertaken prior to the start of trial trenching, the size of the field team, the density of archaeological features per trench, ease of access onto the site, and external factors such as adverse weather conditions.

The following timetable is indicative only, and may need to be changed as the project progresses.

Phase	**Days required**	*Timetable*	**Staffing levels**
Geophysical survey	15 days	9 July – 27 July	1-2
Trial trenching	25 days	23 July – 24 August	6
Report and archive	15 days	27 August – 14 September	3 (including illustrator)

9. STAFF

The work will be supervised by one of the Trust's Project Manager's Mr Andrew Davidson, who graduated in archaeology in 1979. During his career he has been involved with all aspects of archaeological work, including excavation, topographic survey, heritage management and assessments and evaluations. For the past five years he has been Project Manager (now Principal Archaeologist) for the Contract Section of the Trust, and has been responsible for carrying out or overseeing the production of all contract work, including road schemes, pipeline installations and major construction schemes. This work included overseeing the assessment, field evaluation and excavations along the route of the A55, which runs alongside the Ty Mawr development site.

David Hopewell is an experienced field archaeologist, with extensive knowledge and experience of geophysical techniques. He has worked on a large number of projects, in particular the evaluation of the route of the A55 across Anglesey, and he is therefore familiar with the area around Ty Mawr. This officer will be responsible for conducting the magnetometer survey, and will be in overall charge of all site work.

APPENDIX II

Finds register

Find no.	Trench	Feature no.	Material	Description
001	26	cleaning	ceramic	Rim sherd of probable Roman coarse-ware
002	26	cleaning	ceramic	2 small decorated sherds of Samian ware
003	26	unstratified	iron	2 iron objects and 3 fragments from spoil heap
004	34	cleaning	flint	2 flint flakes
005	34	cleaning	teeth	Several whole and fragmented teeth, horse or cow.
006	36	004	charcoal	Small sample, but with some identifiable pieces
007	36	004	charcoal	Mostly soil and gravel, some charcoal frags.
008	43	003	charcoal	Small sample, but contains large frags of charred wood
009	57	007	charcoal	Fairly large frags of charcoal in soil
010	57	007	slag	Several fragments of iron slag
011	57	007	charcoal	Large frags of charred wood
012	57	003	chert	Red chert pebble, presumably burnt
013	61	cleaning	flint	1 flint flake, 1 thumbnail scraper
014	64	cleaning	flint/chert	1 flint flake, 1 black chert flake
015	57	007	slag	1 piece of slag
016	54	022	ceramic	Rim sherd
017	54	cleaning	ceramic	Burnt clay encrusted with slag, furnace lining?

APPENDIX III

Report on flint and chert

by George Smith

Trench 34

1. The tip of a small, thick, blade-like flake. 21 x 9. Grey-brown flint.
A broken core-trimming flake with some recent damage. Probably from a small single-direction core for production of narrow blades.

2. Tip fragment of a thin trimming flake. 15 x 10. Yellow-brown flint.

Trench 57, Context 003

Beach cobble, broken probably after light heat treatment. Shattered, not split, so could be accidental. 70 x 63. Unusual blood red chert. Almost certainly an import to the site, not just eroded out of the till. Probably collected and discarded when it was found to be of unworkable material.

Trench 61

1. Thin trimming flake. 25 x 13. Grey-brown flint.
Soft hammer, no platform.

2. Thumbnail scraper. Pebble-backed. 20 x 19. Yellow-brown flint.

Trench 64

1. Irregular fragment. Flat scalar fracture. 23 x 22. Grey-brown flint.

2. Thick core-trimming flake. 40 x 30. Black chert.

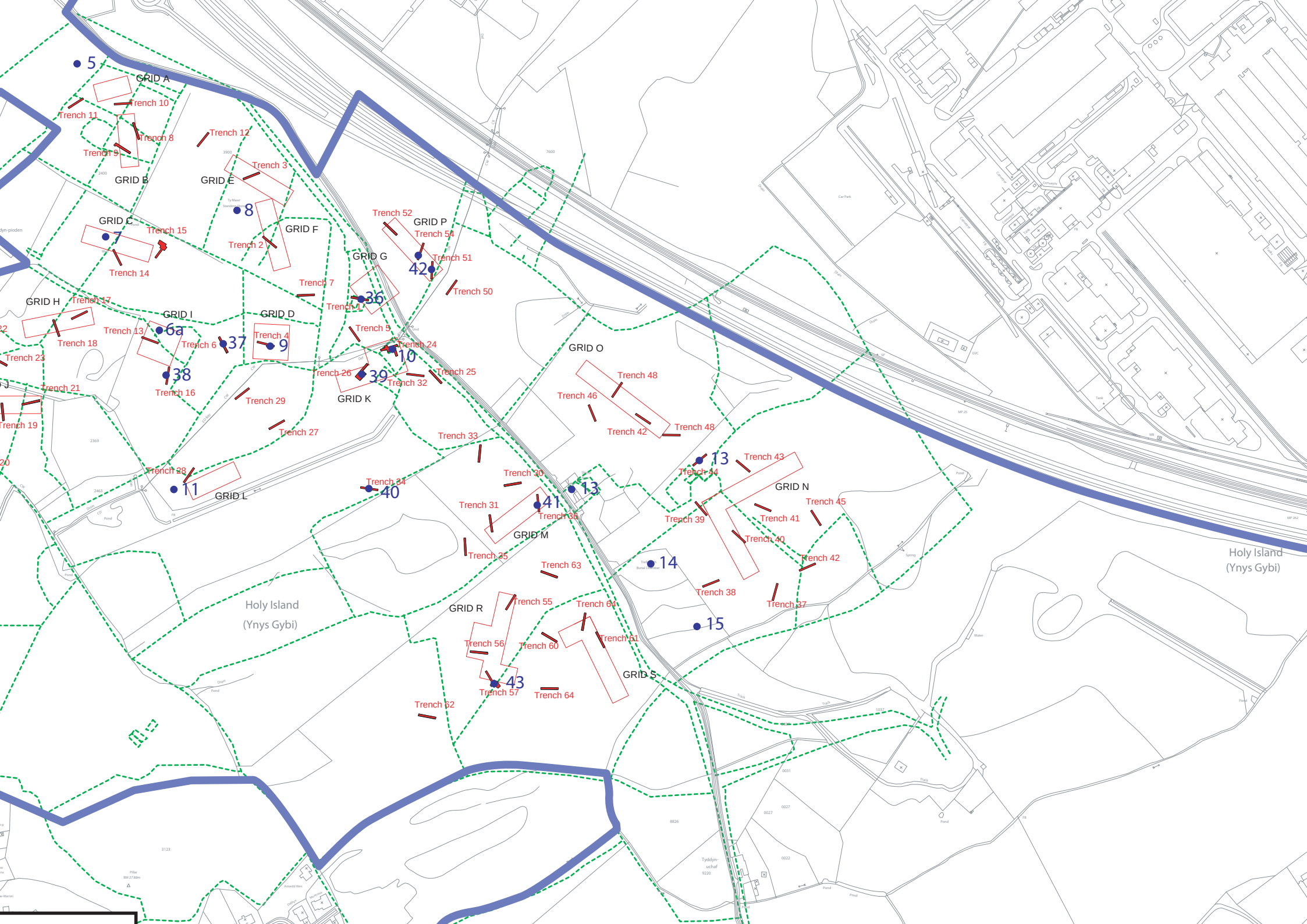
Comment

These all derive from material found locally on the beaches, derived from the glacial till. None of them are closely datable but the lack of better quality imported material, found in the Later Neolithic and Bronze Age in this area, suggests an earlier date. Tr34 no 1 could well be a Later Mesolithic piece but the rest probably belongs with the same period, *c.* 4th millennium BC, as that of the Trefignath chambered tomb, close-by, where beach material, scalar working and thumbnail scrapers were a typical part of the assemblage (Healey 1987).

Healey, E, 1987 Lithic technology. In Smith CA and Lynch FM, *Trefignath and Din Dryfol, the excavation of two megalithic tombs in Anglesey*. Cambrian Archaeological Monographs No. **3**, Cardiff, 50-59

APPENDIX IV

Geophysical plots with raw data and interpretative diagram.


GRID A
GRID B
GRID C
GRID D
GRID E
GRID F
GRID G
GRID H
GRID I
GRID K
GRID L
GRID M
GRID N
GRID O
GRID P
GRID R
GRID S
Trench 1
Trench 2
Trench 3
Trench 4
Trench 5
Trench 6
Trench 7
Trench 8
Trench 9
Trench 10
Trench 11
Trench 12
Trench 13
Trench 14
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Trench 57
Trench 60
Trench 61
Trench 62
Trench 63
Trench 64
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6a
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43
Holy Island
(Ynys Gybi)
Holy Island
(Ynys Gybi)

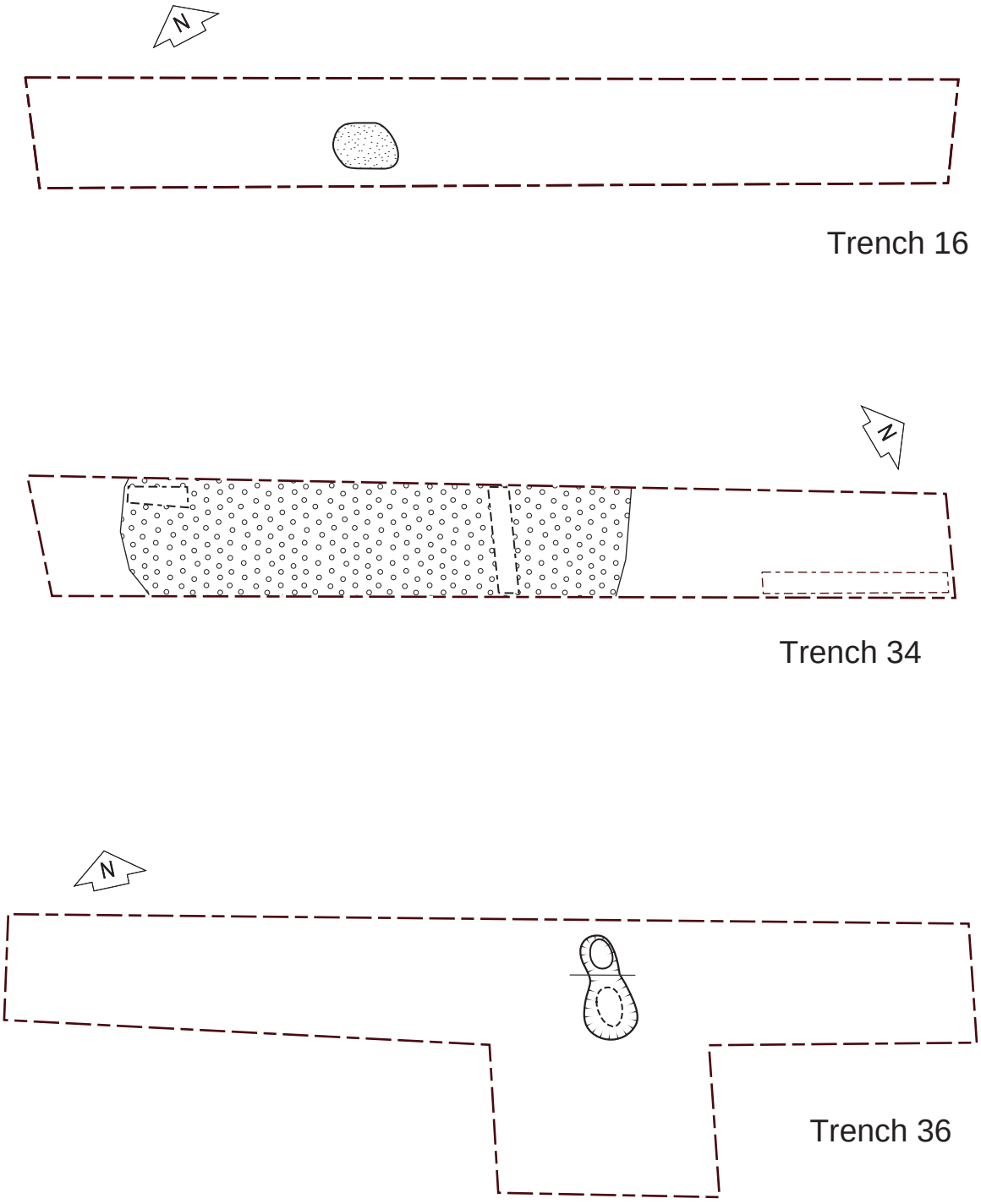


Figure 2

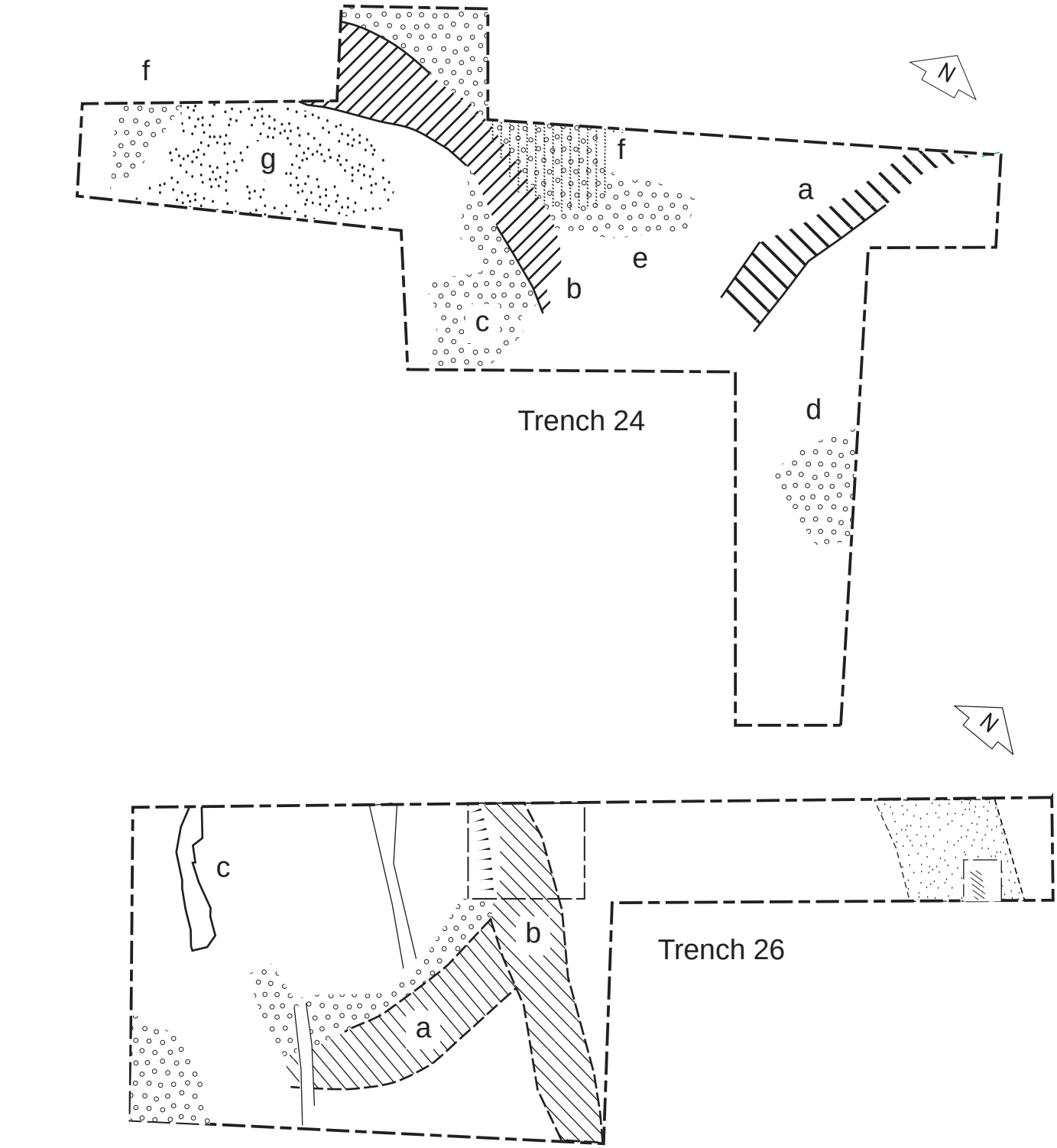
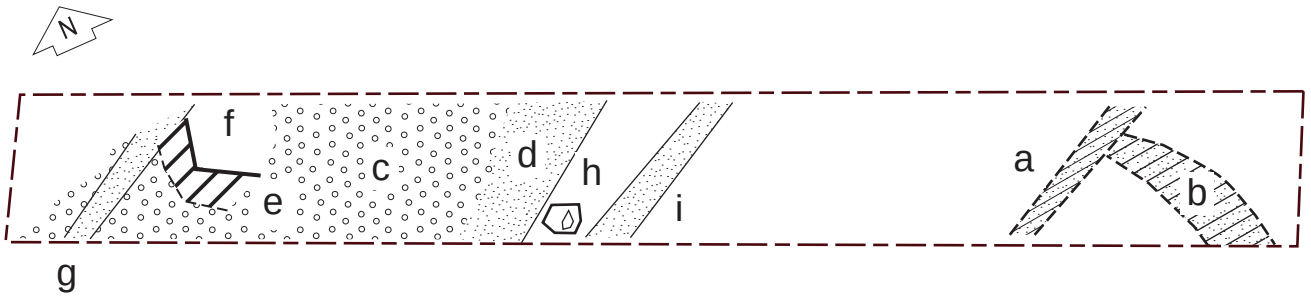
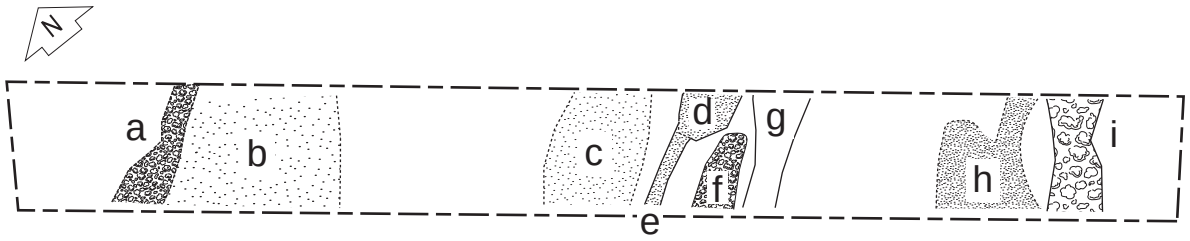


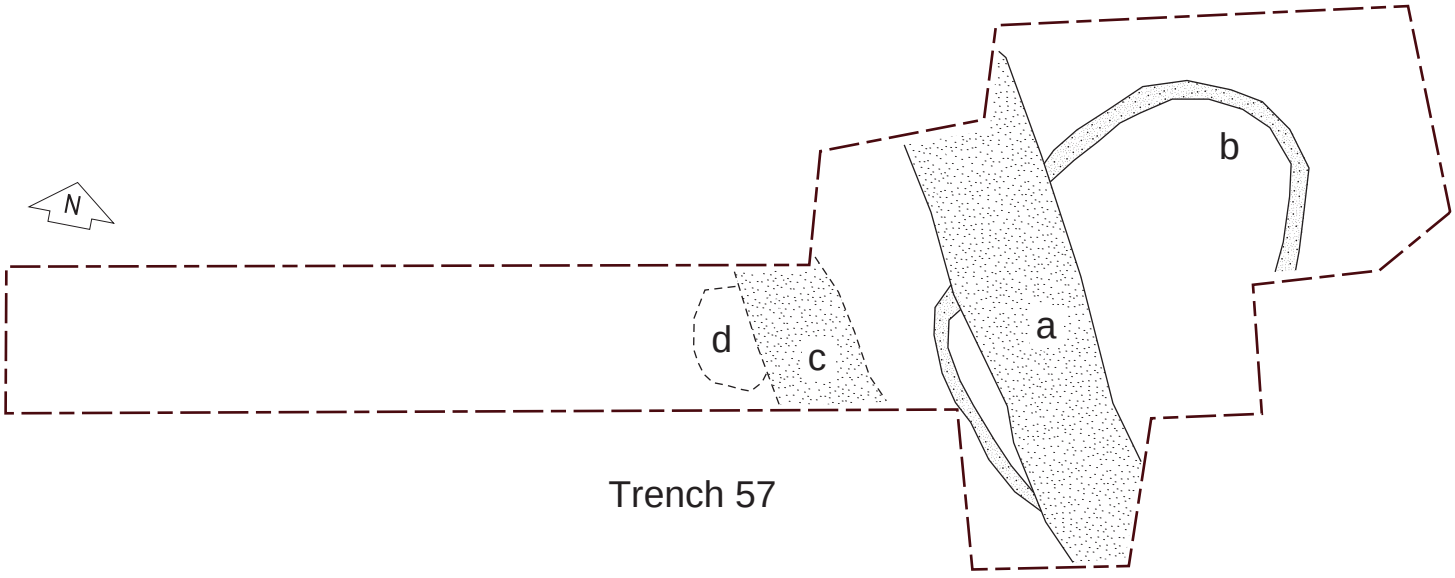
Figure 3



Trench 51



Trench 54



Trench 57

Figure 4

Plate 1: trench 1, wall foundation

Plate 2: trench 4, natural boulder

Plate 3: trench 6, peat deposit

Plate 4: trench 24, wall foundation

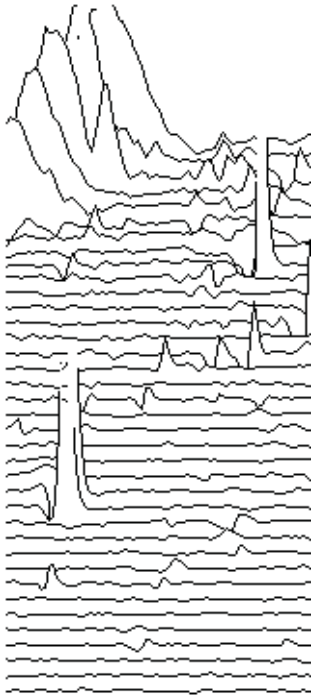
Plate 5: trench 26, Romano-British settlement

Plate 6: trench 36, stone setting

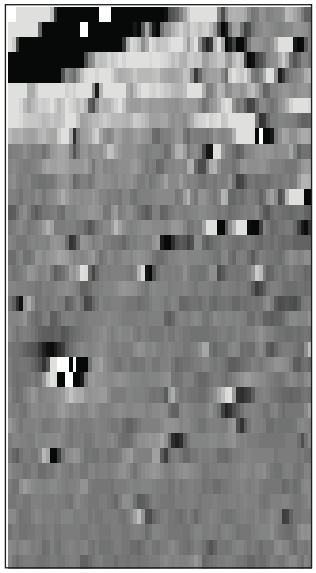
Plate 7: trench 51, stone capped drain

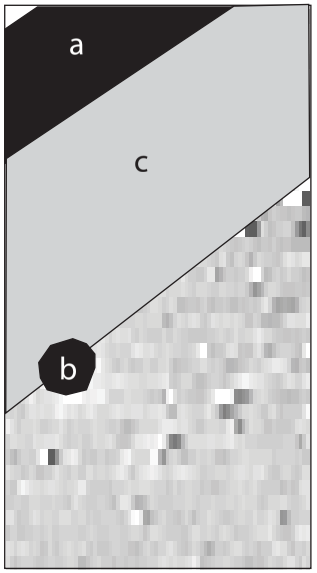
Plate 8: trench 54, possible settlement

Plate 9: trench 57, subcircular feature



51.80 nT





METRES

0 20

LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA A

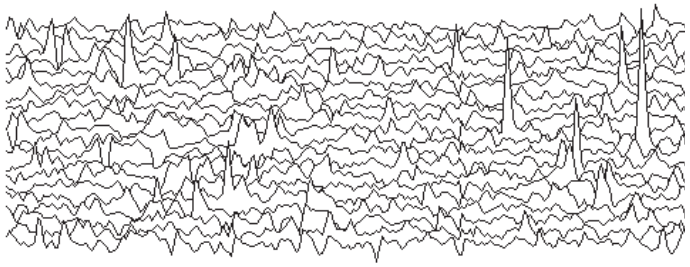
Mean 0.5
Std Dev 26.7
Min -204.5
Max 204.5

KEY

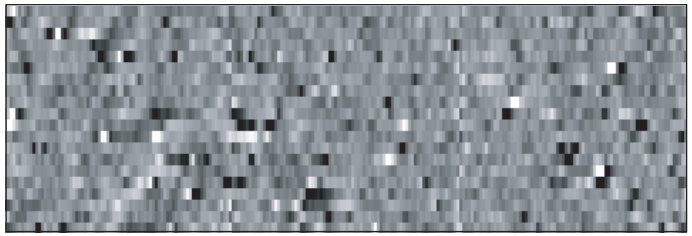
ARCHAEOLOGY

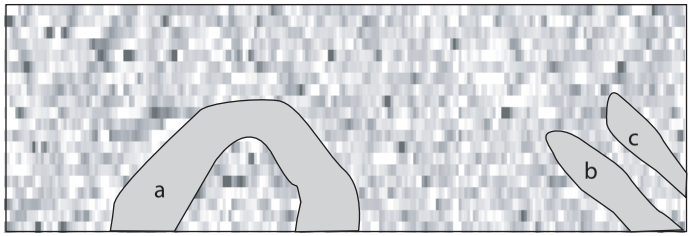
GEOLOGY

INCREASED NOISE



28.08 nT

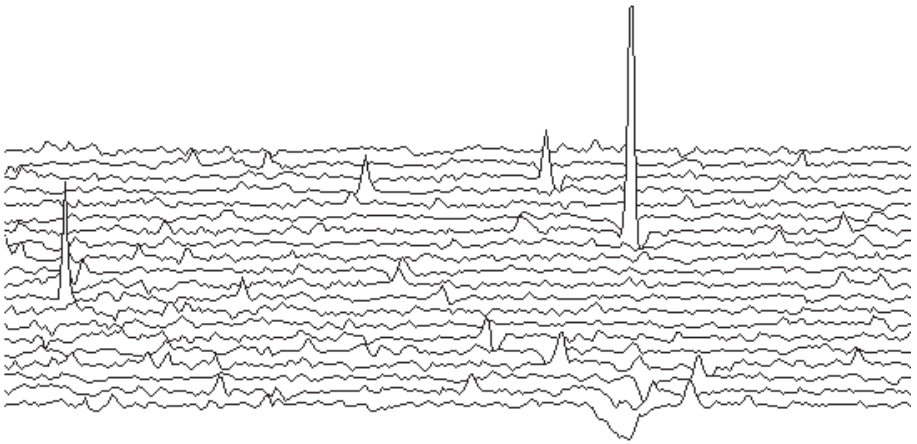


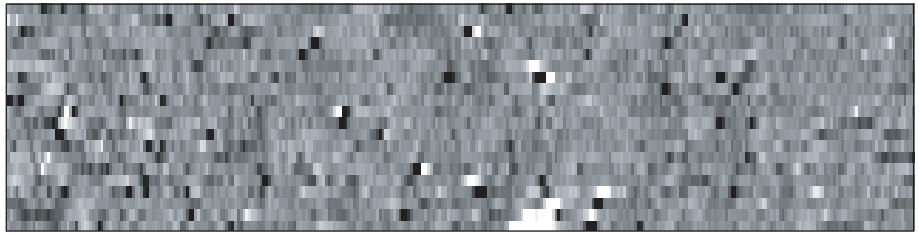


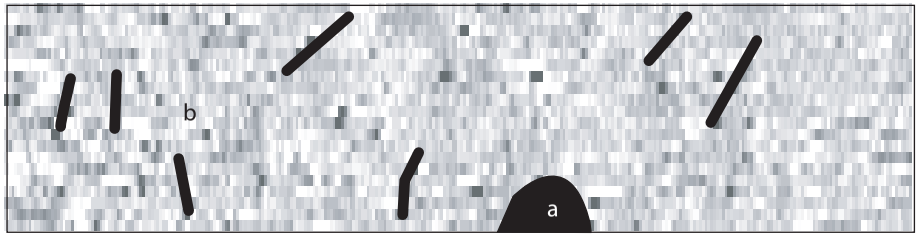
METRES

0 20

LAND AT TY MAWR, HOLYHEAD ARCHAEOLOGICAL ASSESSMENT G1701 GEOPHYSICAL SURVEY RESULTS	AREA B	Mean 0.1 Std Dev 2.3 Min -25.8 Max 43.3	KEY	ARCHAEOLOGY GEOLOGY INCREASED NOISE

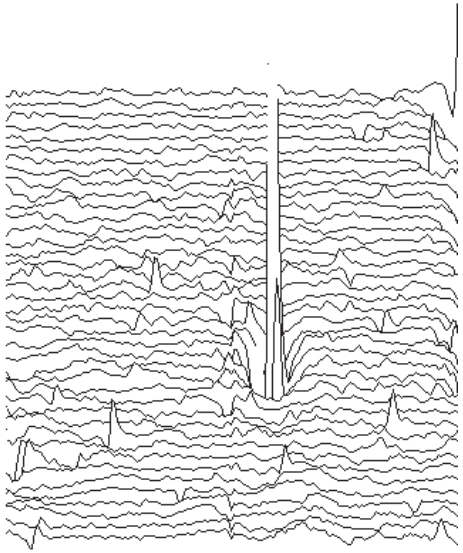




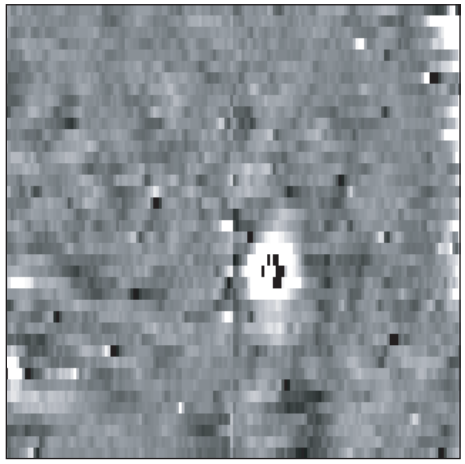


METRES
0 20

LAND AT TY MAWR, HOLYHEAD ARCHAEOLOGICAL ASSESSMENT G1701 GEOPHYSICAL SURVEY RESULTS	AREA C	Mean 0.1 Std Dev 2.5 Min -15.7 Max 101.7	KEY ARCHAEOLOGY GEOLOGY INCREASED NOISE

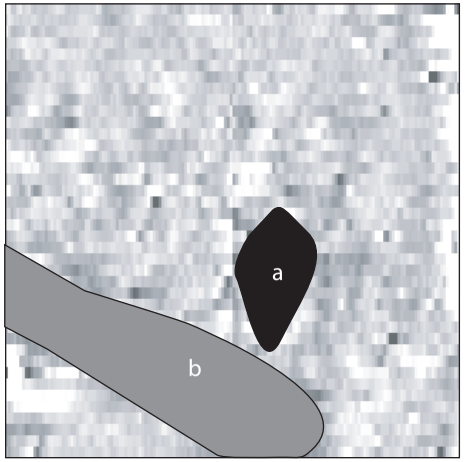


33.63 nT



METRES

0 20



LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA D

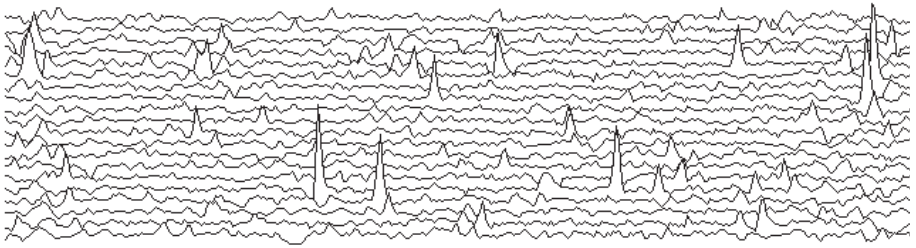
Mean -0.4
Std Dev 8.4
Min -198.4
Max 175.8

KEY

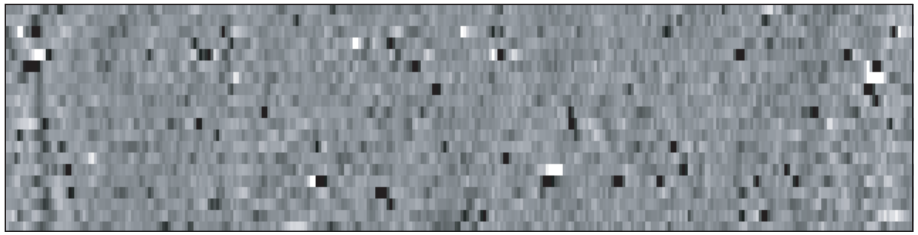
ARCHAEOLOGY

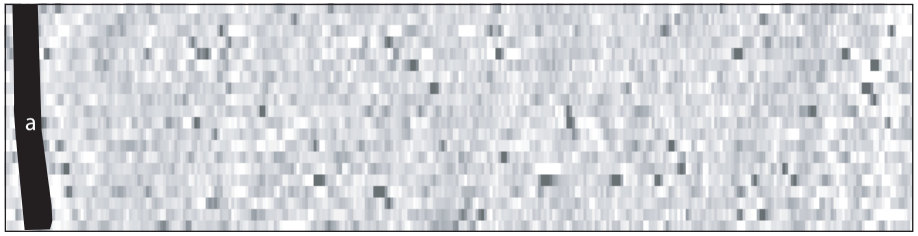
GEOLOGY

INCREASED NOISE



25.19 nT

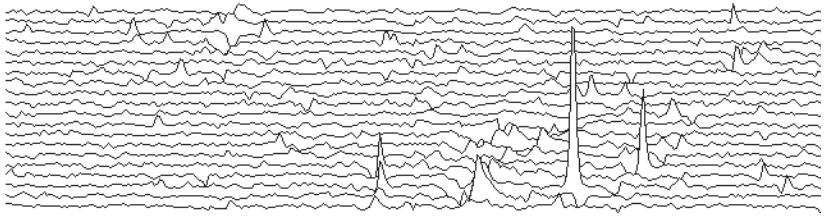




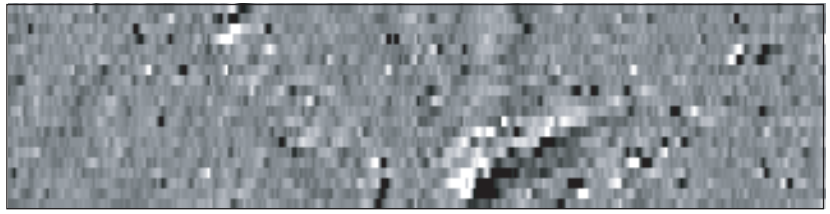
METRES

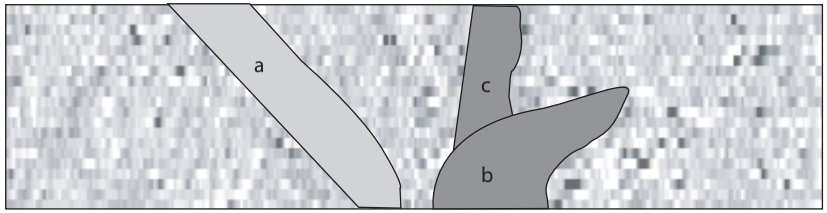
0 20

LAND AT TY MAWR, HOLYHEAD ARCHAEOLOGICAL ASSESSMENT G1701 GEOPHYSICAL SURVEY RESULTS	AREA E	Mean 0.1 Std Dev 2.1 Min -27.8 Max 37.4	KEY	ARCHAEOLOGY GEOLOGY INCREASED NOISE



43.67 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA F

Mean 0.1
Std Dev 3.6
Min -23.2
Max 135

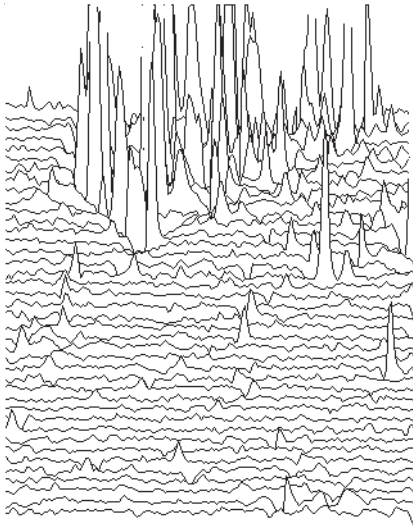
KEY

ARCHAEOLOGY

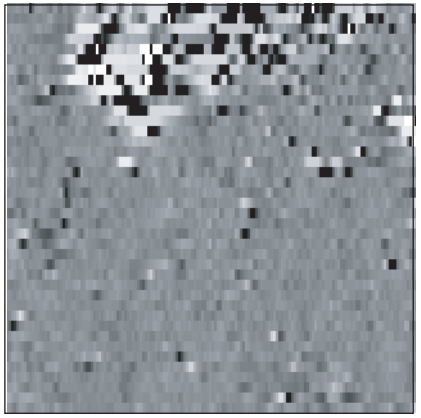
GEOLOGY

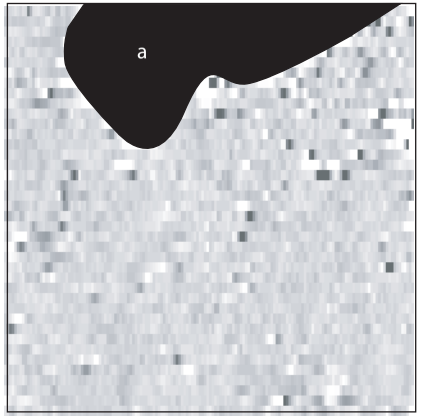
INCREASED NOISE

METRES
0 20



71.07 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA G

Mean -3.1
Std Dev 17.9
Min -191.4
Max 196.7

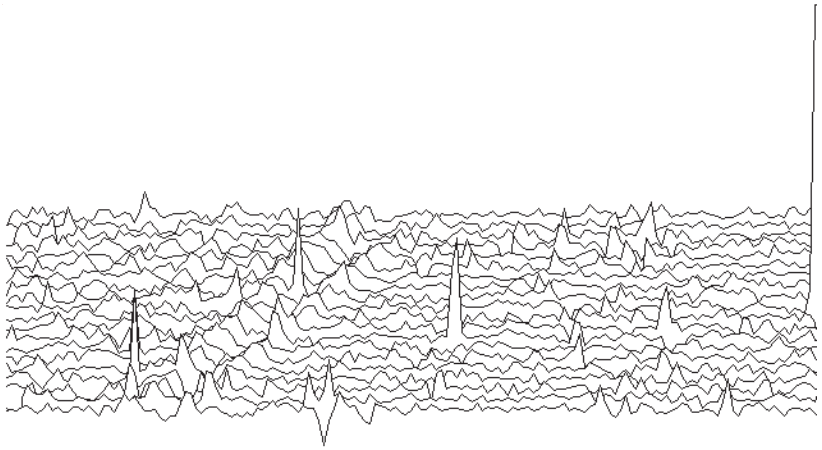
KEY

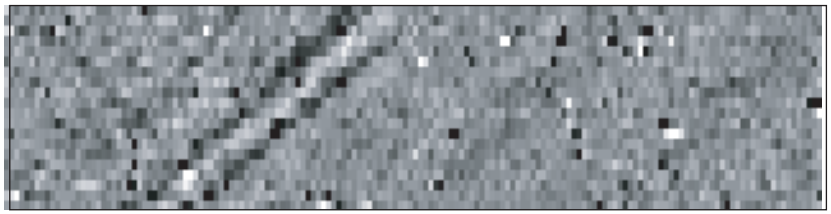
ARCHAEOLOGY

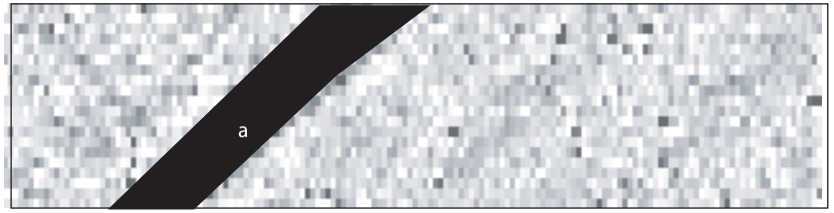
GEOLOGY

INCREASED NOISE

METRES
0 20







LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA H

Mean 0.2
Std Dev 4.0
Min -79.0
Max 128.6

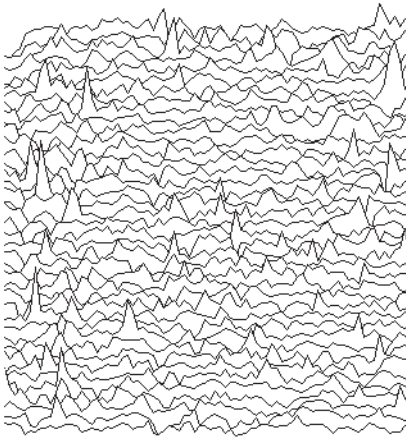
KEY

ARCHAEOLOGY

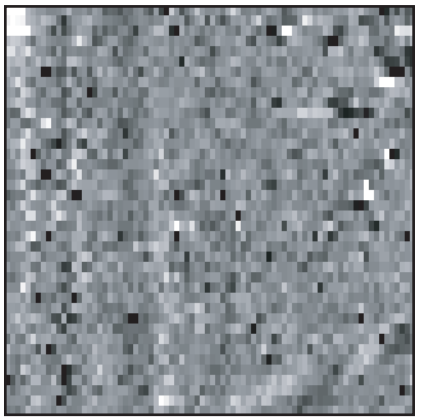
GEOLOGY

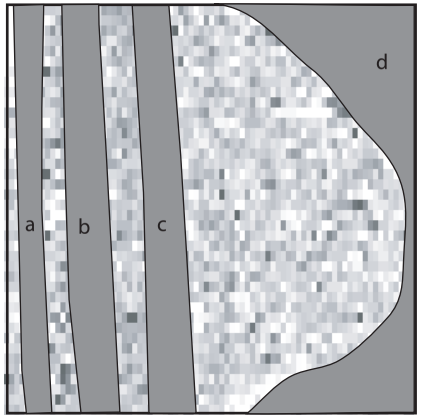
INCREASED NOISE

METRES
0 20



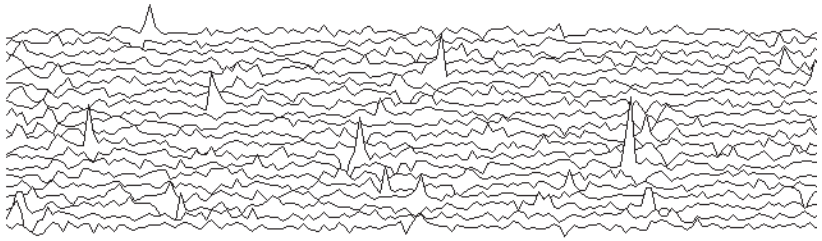
27.87 nT



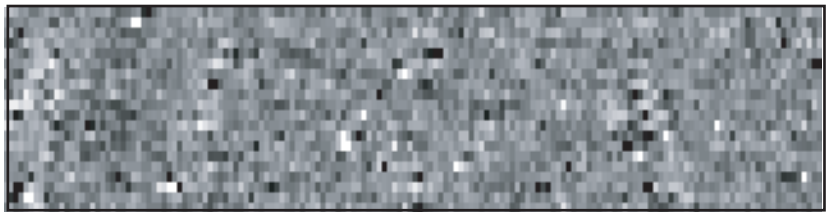


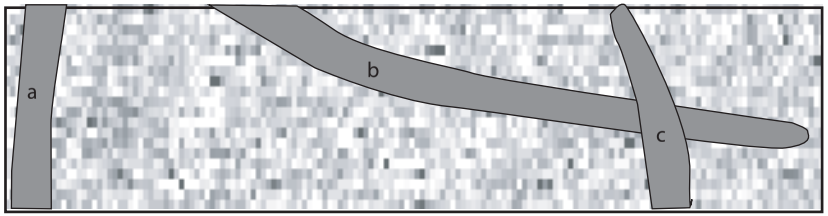
LAND AT TY MAWR, HOLYHEAD ARCHAEOLOGICAL ASSESSMENT G1701 GEOPHYSICAL SURVEY RESULTS	AREA I	Mean 0.0 Std Dev 2.3 Min -19.9 Max 18.4	KEY	ARCHAEOLOGY GEOLOGY INCREASED NOISE

METRES
0 20



23.67 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA J

Mean 0.1
Std Dev 2.0
Min -26.2
Max 31.3

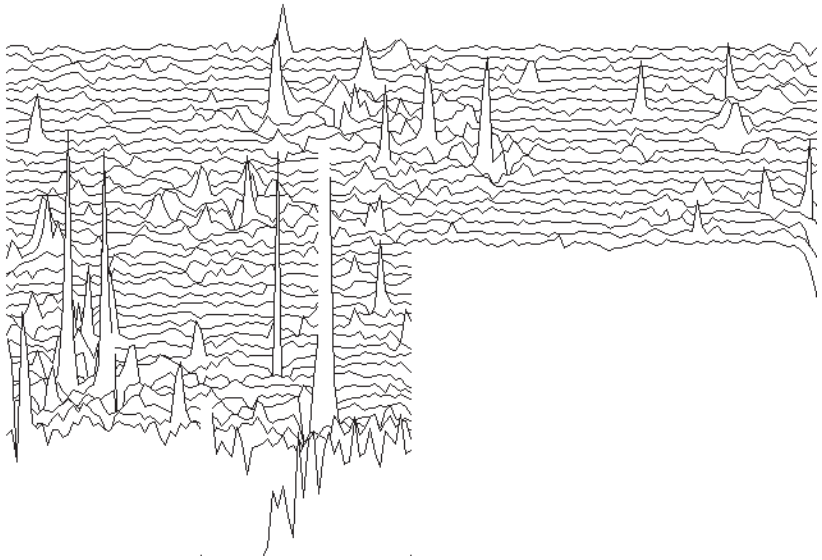
KEY

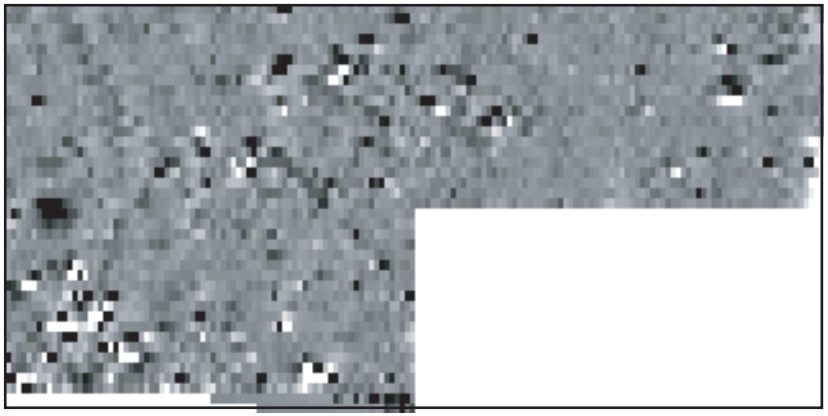
ARCHAEOLOGY

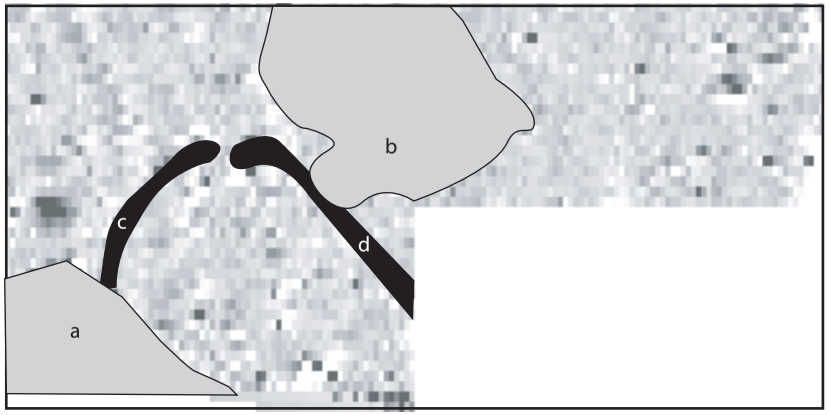
GEOLOGY

INCREASED NOISE

METRES
0 20







LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA K

Mean 0.1
Std Dev 2.0
Min -26.2
Max 31.3

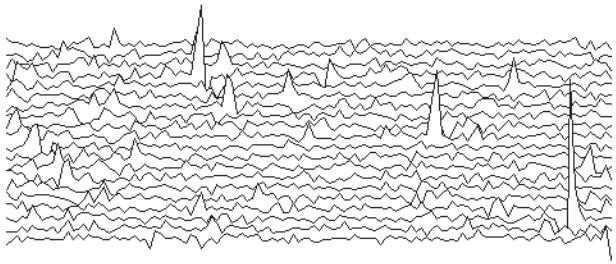
KEY

ARCHAEOLOGY

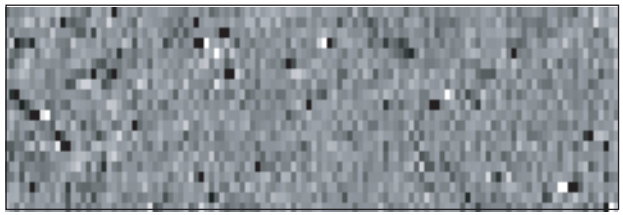
GEOLOGY

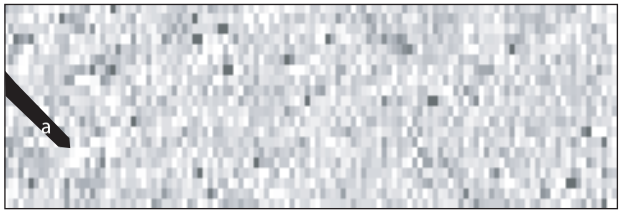
INCREASED NOISE

METRES
0 20



14.23 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA L

Mean 0.1
Std Dev 1.8
Min -49.1
Max 38.4

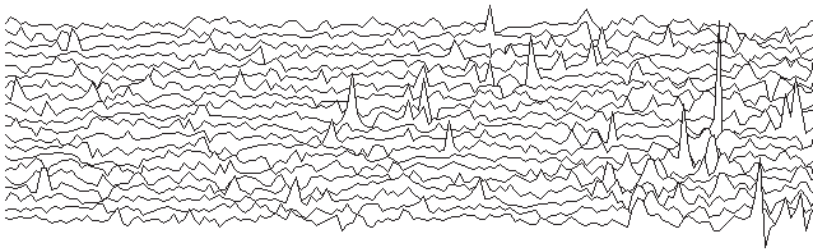
KEY

ARCHAEOLOGY

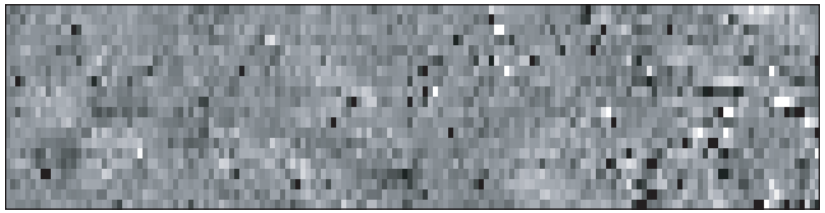
GEOLOGY

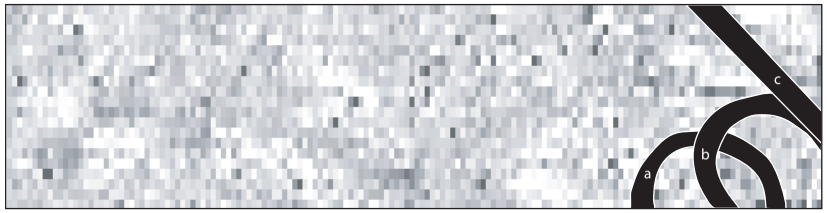
INCREASED NOISE

METRES
0 20



11.82 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA M

Mean: 0.0
Std Dev: 1.4
Min: -21.0
Max: 24.4

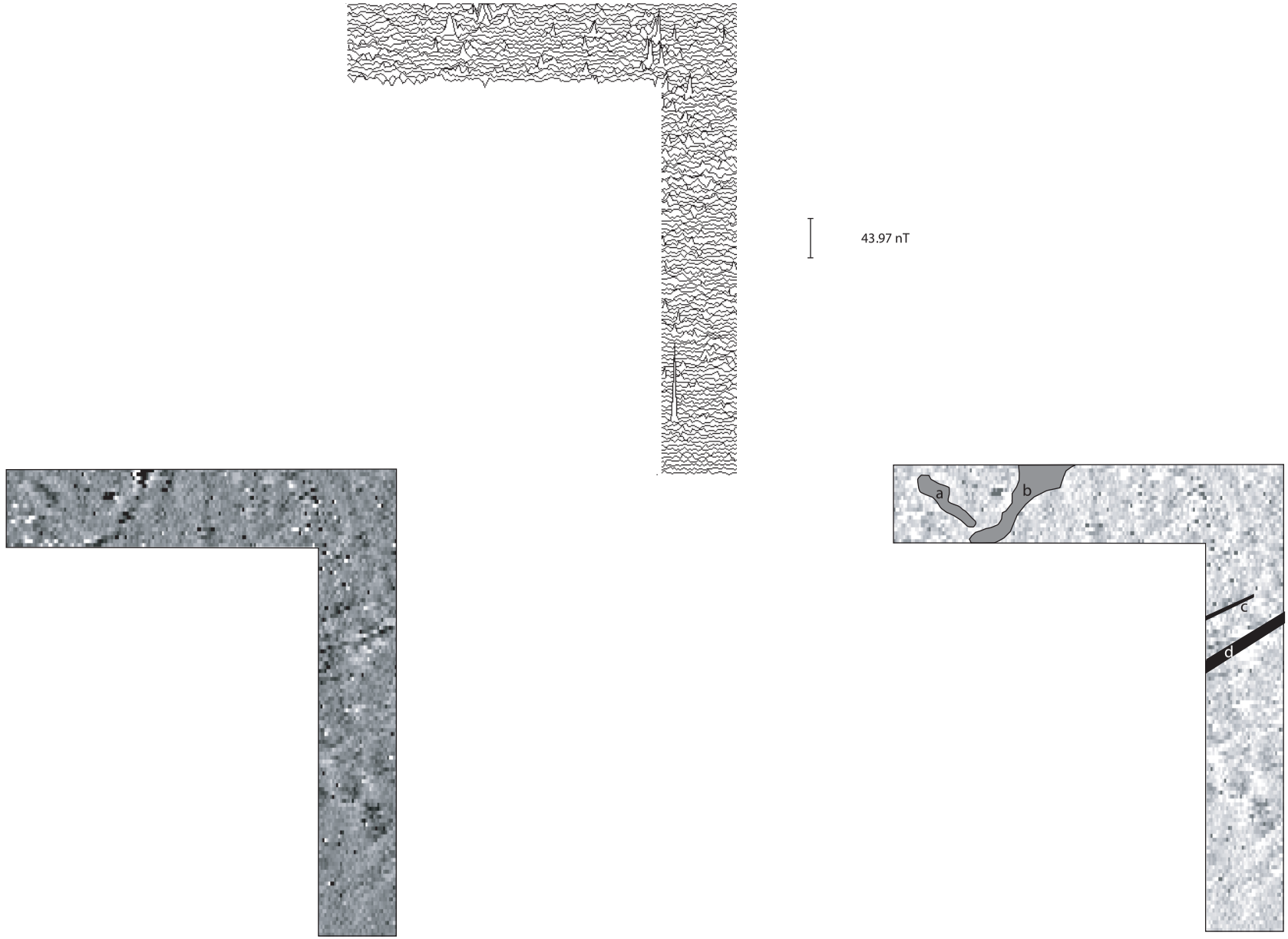
KEY

ARCHAEOLOGY

GEOLOGY

INCREASED NOISE

METRES
0 20



LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA N

Mean:	0.1
Std Dev:	2.7
Min:	-51.3
Max:	82.8

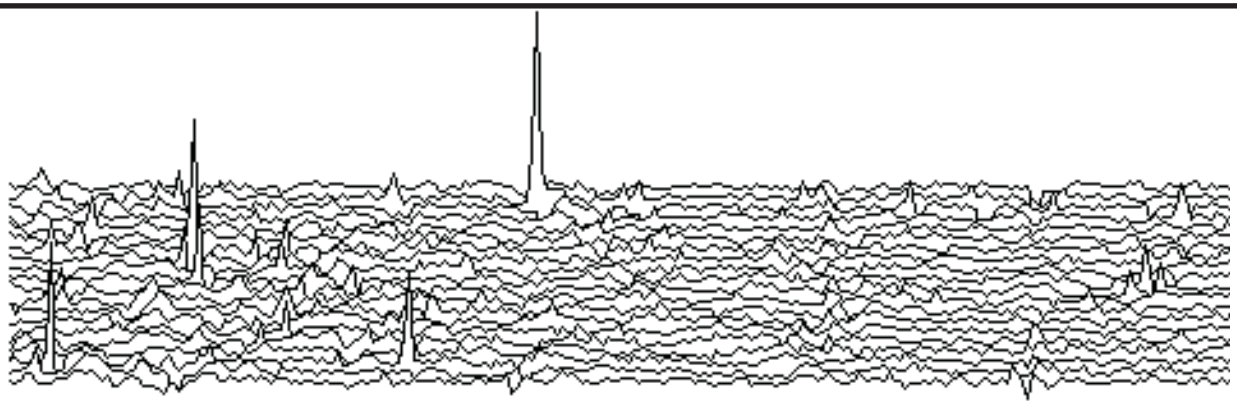
KEY

ARCHAEOLOGY

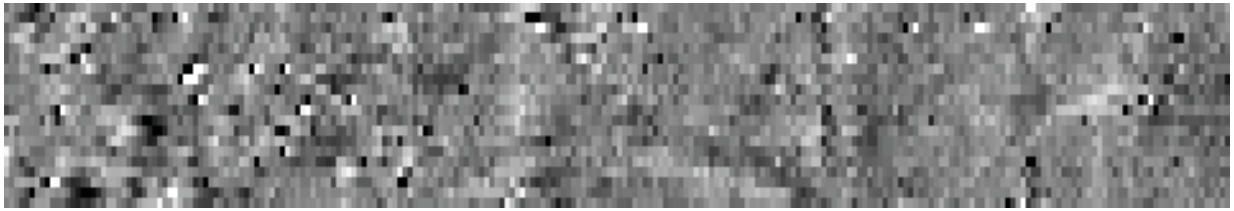
GEOLOGY

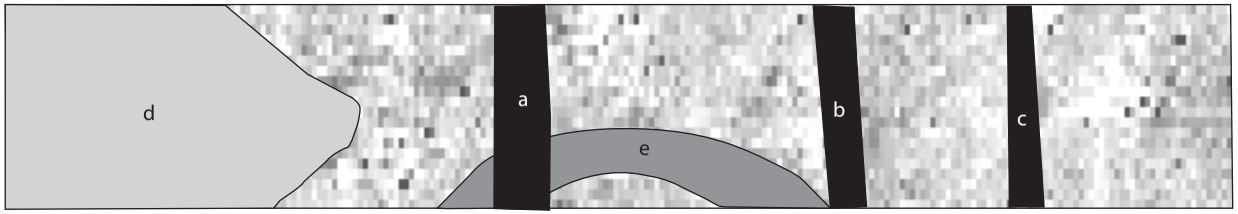
INCREASED NOISE

METRES
0 50



44.49 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA 0

Mean:	0.1
Std Dev:	2.8
Min:	-31.8
Max:	88.2

KEY

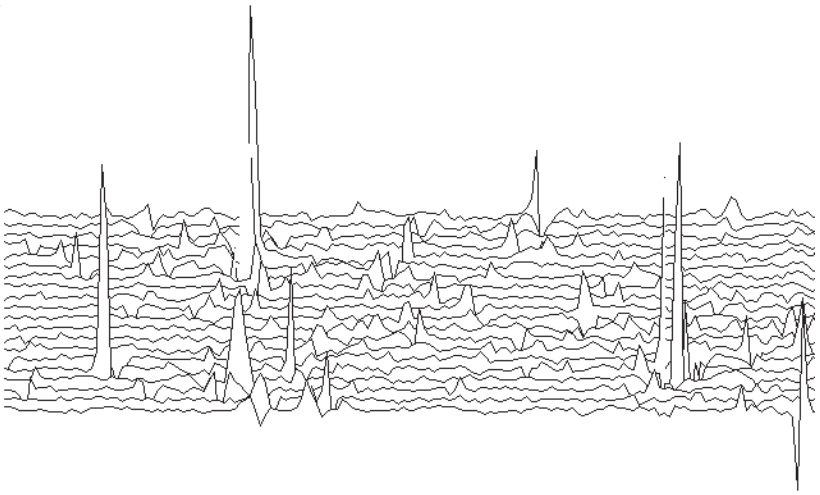
ARCHAEOLOGY

GEOLOGY

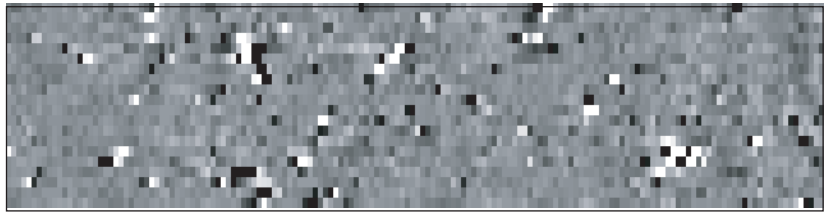
INCREASED NOISE

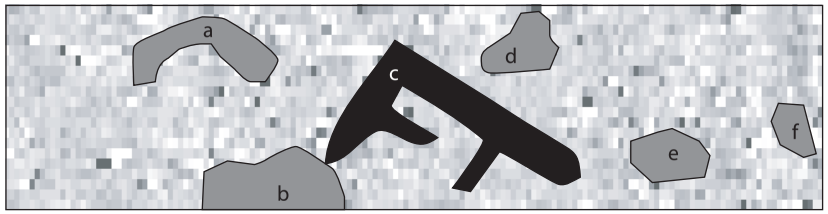
METRES

0 20



35.27 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA P

Mean: 0.32
Std Dev: 8.81
Min: -88.2
Max: 208.2

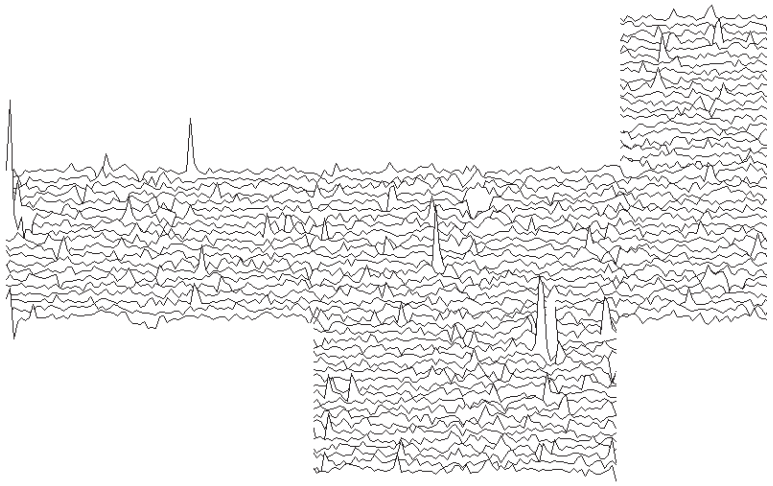
KEY

ARCHAEOLOGY

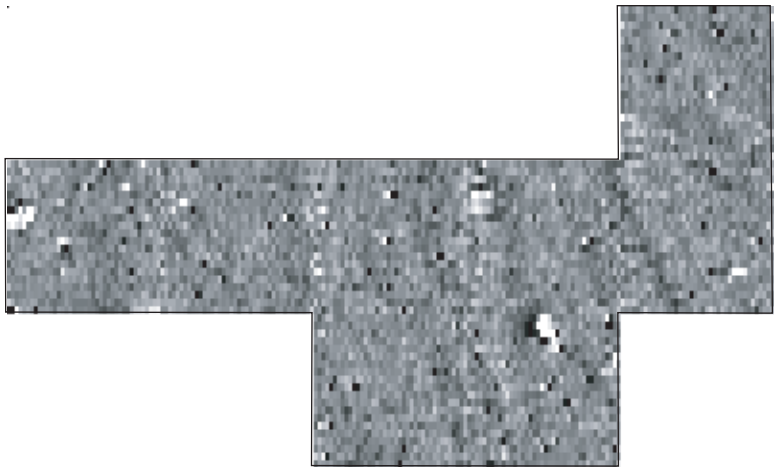
GEOLOGY

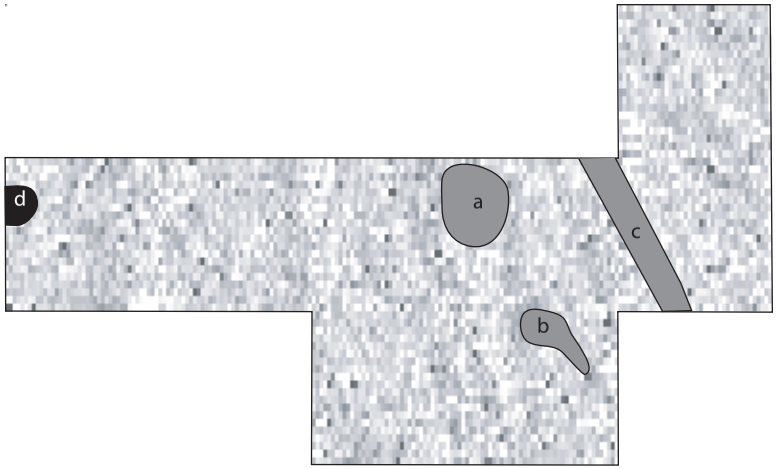
INCREASED NOISE

METRES
0 20



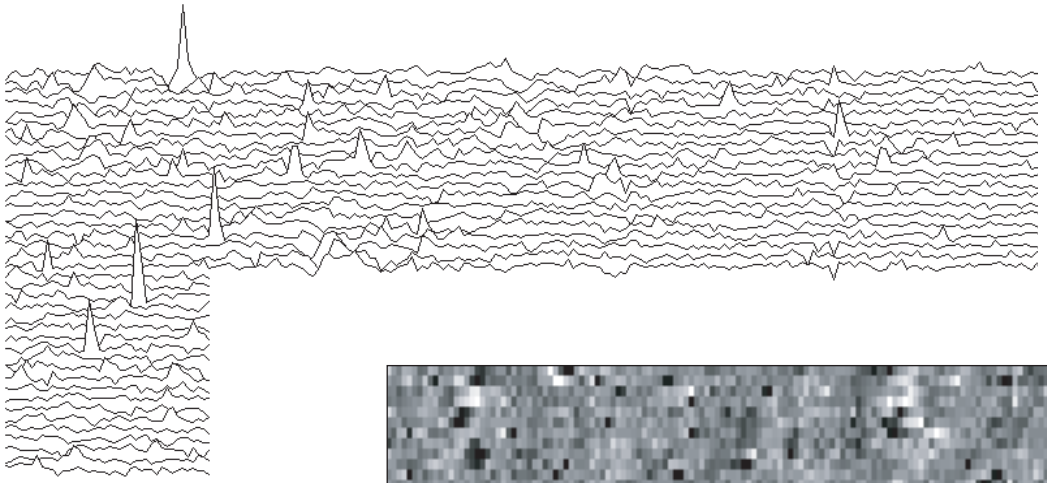
35.27 nT



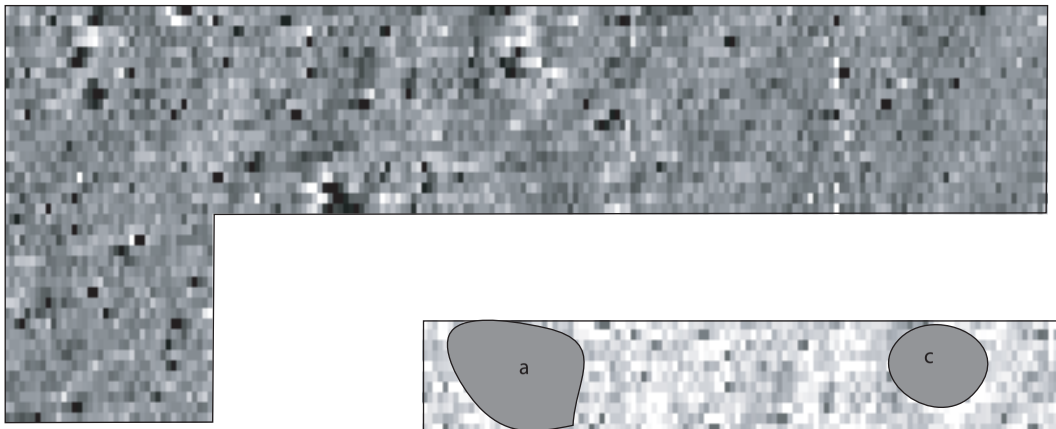


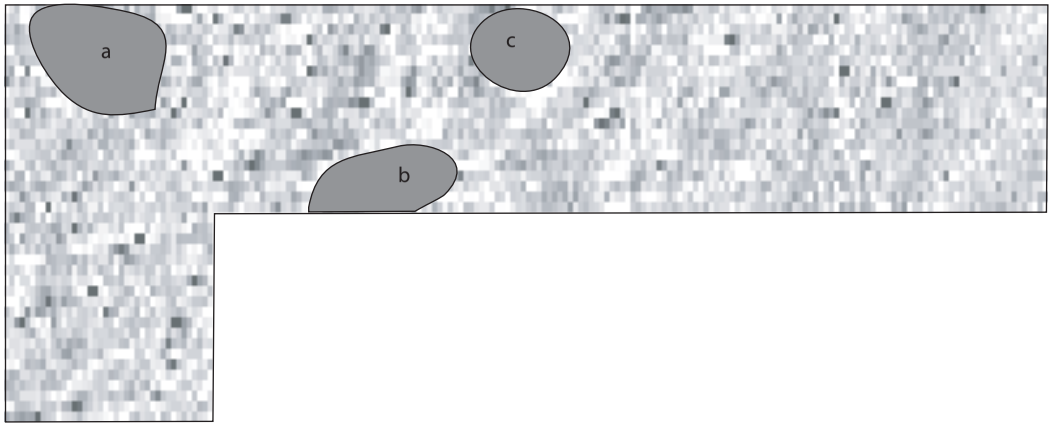
LAND AT TY MAWR, HOLYHEAD ARCHAEOLOGICAL ASSESSMENT G1701 GEOPHYSICAL SURVEY RESULTS	AREA R	Mean: -0.1 Std Dev: 2.7 Min: -124.5 Max: 49.1	KEY	ARCHAEOLOGY GEOLOGY INCREASED NOISE

METRES
0 20



20.57 nT





LAND AT TY MAWR, HOLYHEAD
ARCHAEOLOGICAL ASSESSMENT
G1701
GEOPHYSICAL SURVEY RESULTS

AREA S

Mean: 0.1
Std Dev: 1.7
Min: -7.4
Max: 20.57

KEY

ARCHAEOLOGY

GEOLOGY

INCREASED NOISE

METRES
0 20

YMDDIRIEDOLAETH
ARCHAEOLEGOL
GWYNEDD

GWYNEDD
ARCHAEOLOGICAL
TRUST

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