

A55 BRYNGWRAN TO HOLYHEAD
(EAST SECTION)

ARCHAEOLOGICAL EVALUATION (G1367)

REPORT NO. 204

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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ARCHAEOLOGICAL EVALUATION

1. INTRODUCTION

The Welsh Office is proposing to construct a new road across Anglesey parallel to the existing A5, and linked directly to the A55(T) which enters Anglesey via the Britannia Bridge. Archaeological assessments have already been carried out for stages one and two (Llanfairpwll to west of Bryngwran), and initial assessment has been undertaken for stage four, Holyhead, although the latter requires updating.

This section of the proposed scheme starts at Cymunod, south of the A5 between Bryngwran and Caergeiliog, crosses over the A5 at Dalar crossroads, and passes to the north of Caergeiliog. It then crosses back over the A5 east of Valley, and passes south of Valley before turning north to meet the Stanley Embankment. It crosses the Holyhead straits on the south side of the embankment and then runs along the south side of the railway to the farm of Ty Mawr.

The proposals are to be accompanied by an Environmental Statement, which is being prepared by W S Atkins for the Welsh Office. Gwynedd Archaeological Trust was contracted to undertake the archaeological evaluation of the route, to be presented as part of the Environmental Statement.

2. ASSESSMENT BRIEF

A report was requested from Gwynedd Archaeological Trust, to assess the likely archaeological impact of the proposals and to recommend mitigatory measures.

The requirement was for a desk-top survey and field search of the corridor of interest in order to assess the impact of the proposals on the archaeological and heritage features both within the road corridor and close enough to it to be affected. The importance and condition of known archaeological remains were to be assessed and any other areas of archaeological interest to be identified. Measures to mitigate the effects of the road scheme on the archaeological features were to be recommended.

In addition, the assessment was to be carried out in accordance with the *Design Manual for Roads and Bridges* Volume 11, Section 3, Part 2, Cultural Heritage, June 1993 (incorporating amendment number 1, August 1994).

Gwynedd Archaeological Trust's proposals for fulfilling these requirements were, briefly, as follows:

- a) to identify and record the cultural heritage of the area to be affected by the proposals;
- b) to evaluate the importance of what was identified (both as a cultural landscape and as the individual items which make up that landscape); and
- c) to recommend ways in which damage to the cultural heritage can be avoided or minimised.

N.B. Full details of ancillary areas likely to be affected by the road works, such as vehicle parking and turning areas, materials storage areas etc., have not yet been supplied. Experience shows that these areas are as likely to suffer damage as the actual land-take for the road. If all such areas fall within the corridor of interest, they will have been covered, but in order that all areas affected may be subjected to the same level of survey, any information relating to areas affected outside the 400 m corridor should be notified to the Trust as soon as possible.

3. METHODS AND TECHNIQUES

3.1 Desk-top Study

The information contained in the Gwynedd Sites and Monuments Record, held at the offices of the Gwynedd Archaeological Trust, provided the initial information for the study. The County archives at Llangefni were then consulted, where use was made of the parish index, the tithe maps and land tax assessments. The archive records at University of Wales, Bangor, were also consulted, and particular use was made of the Penrhos Manuscripts. Access was denied to the Baron Hill papers, by instruction of Sir Richard Williams Bulkeley, which would have contained some relevant documents and maps. However articles in journals of local history societies and printed books which have used these documents for specific studies (e.g. Jones, 1955; Barnes, 1988; Carr, 1982) largely made up the deficiency.

Vertical aerial photographs dating from the 1950's held by the National Monuments Record at Aberystwyth were consulted, as was another set of verticals provided by W S Atkins, taken in July 1995. In addition, use was made of a set of oblique aerial photographs taken along the line of the proposed route in December, 1995 by Gwynedd Archaeological Trust.

3.2 Field Search

The field search was undertaken during January, 1996. The whole length of the preferred route was walked in both directions, covering a corridor of a minimum of 100m either side the proposed road, except where the road is proposed to run alongside the railway, where a corridor 100m wide was covered south of the railway. Weather conditions for fieldwork were good.

Sites identified were marked on copies of 1:10,000 maps as accurately as possible without surveying. Descriptions were completed and photographs taken for each site.

3.3 Archaeological monitoring during ground investigation

A series of soil test pits were dug along the line of the proposed road for engineering purposes. An archaeological attendance was invited during the digging of the pits to monitor for actual or potential archaeological sites. A full report of this work is included as Appendix I to this report.

3.4 Geophysical survey

Geophysical survey was carried out at four sites (5, 6, 8 and 23) to identify any magnetic anomalies of potential archaeological significance. A Geoscan Research FM36 fluxgate gradiometer was used for the survey, and the designated areas were first assessed by generalised scanning and then surveyed in detail in 20m by 20m grids. The fieldwork was carried out between 21 and 26 March, 1996. A full report of this work is included as Appendix II to this report.

3.3 Report

All available information was collated, and transferred onto a single set of maps at a scale of 1:10,000. The sites were then assessed and allocated to the categories listed below. These are intended to give an idea of the importance of the site and the level of response likely to be required.

In some cases, further investigation may result in sites being moved into different categories. The criteria used for allocating sites to categories are based on those used by the Secretary of State when considering ancient monuments for scheduling; these are set out in Annex 3 to Planning Policy Guidance 16 (Wales): Archaeology and Planning.

3.4 Categories

The categories listed below follow the guidelines given in the *Design Manual for Roads and Bridges* Volume 11, Section 3, Part 2, Paragraph 3.4, and allocation of a site to a category defines the importance of the archaeological resource of that site.

Category A - Sites of national importance.

Scheduled Ancient Monuments, Listed Buildings and sites of schedulable or listable quality, i.e. those which would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both.

Sites which are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

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 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 destruction.

Category D - Minor and damaged sites.

Sites which are of minor importance or so badly damaged that too little remains to justify their inclusion in a higher category.

For Category D sites, rapid recording, either in advance or during destruction, 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 there should be no sites remaining in this category.

3.5 Definition of Impact

The impact has been defined as none, slight, likely, considerable or unknown as follows:

None:

There is no construction impact on this particular site. (Sites identified as of particular importance are, where possible, avoided by the improvement proposals. Such sites have been identified in the tables).

Slight:

This has generally been used where the impact is marginal and would not by the nature of the site cause irreversible damage to the remainder of the feature, e.g. a track or field boundary.

Likely:

In some instances the site in question would not fall within the direct line of the proposed road

but would fall within the construction area and therefore may subject to its nature be removed or damaged.

Considerable:

The total removal of a feature or its partial removal which would effectively destroy the remainder of the site.

Unknown:

This is used when the location of the site is unknown, but thought to be in the vicinity of the proposed road.

3.6 Definition of Mitigatory Recommendations

The alignment of the proposed road avoids as far as possible sites of archaeological interest. Where a site is affected, mitigation measures will be included in accordance with current Welsh Office Highways Directorate policies for the rescue archaeology.

For the purposes of this report the mitigation and rescue archaeology proposals as suggested by Gwynedd Archaeological Trust have been summarised as:

None:

No impact so no requirement for mitigation measures.

Detailed recording:

Detailed recording requires a photographic record, surveying and the production of a measured drawing prior to the commencement of the works on site.

Archaeological excavation works may also be required depending upon the particular feature and the extent and effect of the impact. Some of the sites would require dismantling by hand, to provide a detailed record of the method of construction and in the case of a listed structure, the salvage of materials for re-use and re-building.

Basic recording - recording by photograph and description:

Recording by photograph and description requires a photographic record and survey work prior to the commencement of works on site. A measured drawing may be required in certain cases.

Watching brief:

At the commencement of the improvement works on site, all sites affected by the works would need to be observed up to the end of the contract period.

4. ARCHAEOLOGICAL FINDINGS AND RECOMMENDATIONS

4.1 Introduction

A number of sites within the study area were identified on the Sites and Monuments Record, e.g. Trefignath burial chamber, Ty Mawr standing stone, and a Roman coin hoard findspot at Tref Arthur, although none would be directly affected by the proposed road. Estate maps and papers dating from the 18th century, tithe maps and Ordnance Survey maps showed how much the agricultural landscape changed in the 19th century, when old field systems were replaced with the present rectilinear fields.

Lists supplied by Cadw: Welsh Historic Monuments gave information about listed buildings and scheduled ancient monuments. There are no scheduled ancient monuments within the route corridor, although there are two (Trefignath Burial Chamber and Ty Mawr Standing Stone) within site of the scheme. There are two listed buildings which lie close to the corridor (Pont Traeth Cleifiog and Pencledog house and buildings).

The larger part of the area walked consisted of improved pasture and 19th century field boundaries. However, map evidence was used to identify earlier features, slight remains of which were occasionally visible on the ground.

Two potential sites were noted during the monitoring of the soil pits. One potential site was discovered as a result of the magnetometer survey.

4.2 The Archaeological Background

4.2.1 Prehistoric and Roman (up to 400AD) (see fig.1 for location of sites).

The earliest periods of Prehistory, the Palaeolithic and Mesolithic, are sparsely represented on Anglesey, and there are no known sites from these periods within the vicinity of the proposed route. The earliest known site is the Neolithic burial chamber at Trefignath. This site is of three distinct phases (Smith and Lynch, 1987), each phase utilising a different chamber, so that the end product was a long rectangular cairn containing three chambers. Underlying the cairn was evidence for early Neolithic occupation, in the form of hearths and pottery, but no structures. The nearby Ty Mawr standing stone is one of a number of standing stones on Anglesey, the exact function of which is unknown, but excavations at other sites suggest funerary and ritual connections, and a date of use from within the early Bronze Age.

There are no known Iron Age sites close to the line of the proposed road. Anglesey was certainly well populated during this period as is evidenced by the extant number of hillforts and settlements of round huts (RCAHMW 1960; Lynch F, 1991), and the spectacular finds from Llyn Cerrig Bach (Fox C, 1946). The nearest settlements are those at Ynys Leurad and Trearddur, and the nearest hillfort is that on Holyhead mountain. A settlement of Prehistoric date may also have formerly existed at Caer Elen, at the east end of this stage of the proposed road.

The Roman military occupation is represented by the Roman fort at Holyhead, and its associated watch tower on top of Holyhead Mountain, whereas civil settlements of the period are depicted by the continued occupation of the settlements of round huts. Two hoards of Roman coins have been found within the study area, and although the exact location is not known for either, one was close to the Tref Arthur burial chamber, and consisted of 300 small coins of 4th century date found in 1843 in an urn under a large stone. The other came from Penrhos Isaf, and consisted of 17 coins of 4th century date. The site of the latter find probably lies under Anglesey Aluminium works.

4.2.2 Medieval (400AD - 1485AD)

The proposed road passes through the parishes of Bodedern, Llanfair yn Neubwll, Llanynghenedl and Holyhead. The exact nature of Medieval settlement on Anglesey is poorly understood, because there are so few physical remains of settlements from that date. However, the basic unit of settlement in Anglesey was the township, a known area of land, although not necessarily a single block, which could be held by either free or bond tenure. If the former, the land would be inheritable land belonging to a kindred group. Bond land was owned directly by the Crown, and bondsmen enjoyed the use of small arable holdings in return for labour services and renders (Carr, 1982).

Medieval township names are retained within the present farm names of Sbylltyr, Tre Ifan, Cleifiog and Llanfawr. There are no known Medieval remains associated with any of these farms, although the house at Tre Ifan certainly contained 17th century details (see Listed Building description). The fields and settlements within the parish of Llanynghenedl have been intensively studied (Barnes, 1988), but despite an excellent sequence of documentation it proved difficult to identify Medieval enclosures and houses with those still surviving. Cleifiog, for example, was a Medieval township, however there are three surviving farms each with the name Cleifiog. In addition, houses often moved from their original location, as can

be seen at Ty Mawr, Valley, and Trefignant, Holyhead, which were moved in the 18th century. The lands belonging to individual families were rarely held in a single contiguous block, but consisted of intermingled strips of arable, with shared rights to common grazing etc. The early estate maps (particularly Penrhos II, 772 and 773) of the 18th century often show single strips of land held by another land owner in an otherwise consolidated holding, which are the remnants of the Medieval strip fields.

4.2.3 Post-Medieval and later (1485AD to the present day)

From Medieval times to 1800, lands in intermingled ownership were drawn together to form vast estates under powerful landlords. The acquiring of land was achieved in a number of ways, including inheritance, marriage, purchase and exchange. This latter practice was common in the 18th century, when the estates had become firmly established, and owners wished to create easily manageable consolidated farms which could be let out to rent. Many of the estate maps of the 18th century were surveyed as necessary preliminaries to the exchange and sale of lands. The proposed road passes through the lands of two principal landowners: the Stanleys of Penrhos and the Bulkeleyes of Baron Hill. The former owned most of the north end of Holyhead island, including all the lands through which the proposed road passes on that island, and also individual farms, e.g. Bodowyr and Ty Mawr, on Anglesey. The Bulkleys owned most of the farms in Llanynghenedl, including Cleifiog Isaf and Uchaf. Once the farms had been consolidated into individual holdings, the fields were often re-modelled, removing the evidence of the earlier strips and intermingled holdings, and laying out new rectangular fields (see fig's 4 and 5). This process usually took place in the first half of the 19th century, and evidence for this is visible at Ty Mawr, Penmynydd (which even changed its name) and Tre Gof. The later Post-Medieval period saw a gradual enclosing of open moorland and marshland such as Rhos east of Penmynydd, and the draining of the Cleifiog sands.

The consolidated farms often contained a number of cottages, the occupiers of which had a few acres for themselves, and worked on the main farm the remainder of the time. These cottages were often on the site of earlier holdings, which became part of the consolidated farm. Because of economic and technological changes, these cottages were no longer necessary in latter part of the 20th century, and have been demolished or left to disintegrate. Similarly, farms have become amalgamated into larger holdings, and individual farmsteads have become converted into separate houses, or removed altogether. Examples are Tyddyn Bach, Tregarnedd and Bonc Teg, all part of the Penrhos estate.

4.2.4 Roads, rail and industry

The principal roads within the study area, *i.e.* those that were used to get into and out of the area, have largely been involved with the passage to Ireland, although there is, as one would expect, a network of smaller roads linking farms, settlements and churches. Many of the latter are likely to be Medieval in origin, and were certainly in existence by the mid 18th century. Prior to the construction of Telford's road, the main road to Holyhead was that which passed through Llangefni, Bodedern and Llanynghenedl. Access to Holyhead island was then via one of a number of fords (Jones, 1992), the most usual one of which crossed to the north of the later embankment, although another one passed just to the south of the embankment, and quite possibly provides the explanation for the farm name "New Inn" which lies close to the ford.

The Anglesey section of Telford's London to Holyhead road (the present A5) was constructed by 1822, and the Stanley Embankment was opened in 1823, one of the principal engineering works on the road, being 1300 yds long and 16 ft high (Trinder, 1980). The embankment was partly destroyed by a storm in March 1824, but was successfully re-built.

The railway was constructed soon after the completion of the new road, the success of earlier ventures suggesting that travel by rail was three times as fast as by road. The Chester and Holyhead Railway, incorporated in 1844 with Robert Stephenson as Engineer-in-Chief and completed in 1850 over a route surveyed by his father in 1838 (Baughan, 1980).

The development of Holyhead as a port ensured a rising population within the study area, and the creation of Valley as a small settlement. The opening of Anglesey Aluminium in 1970 helped retain the higher levels of population when many other rural settlements were shrinking.

4.3 Gazetteer of Archaeological Sites

The gazetteer contains those sites which are close enough to the line of the proposed road to be affected by its construction. The recommendations are in two parts: where the works require evaluation before full mitigatory measures can be decided upon, the recommendations are for further evaluation, the results of which will allow appropriate mitigation measures to be recommended. Where the information is considered sufficient, mitigatory measures are suggested. A summary at the end of the gazetteer lists the sites according to their allocated category.

1. Telford's A5 road

Category A Impact: Slight

The extant A5, still largely following the route laid out by Telford and built between 1820 and 1828, retains most of the original walling, bridges and culverts. An exception to this is the length of A5 outside Holyhead, where it was diverted in 1970 to allow the construction of Anglesey Aluminium. The road is of particular importance because Anglesey contains the only remaining long stretches of the A5 which were built new by Telford, and therefore may retain, under later surfaces, an original new metalled surface typical of the time. Other individual features of the A5 visible along much of the Anglesey road are the rectangular stone walled compounds for storing road stone for repairs, and the milestones designed by Telford. Provis re-surveyed the road in 1818, and applied to all the landowners, when only 20 out of nearly 200 objected. Act was passed in 1819 authorising the construction of the road at an estimated cost of £52,221.12s.7d. The road to Valley was opened in 1822, and until the opening of the Stanley Embankment (see site 20 below) in 1823, traffic went through Four Mile Bridge. The new road from Bangor Ferry to the Eagle and Child in Holyhead, was opened in the Summer of 1823.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Record by photograph and description any features which may be disturbed, including the original metalling.

2. Urn from Cymunod SH339770

Category E Impact: Unknown

An urn was found in 1868 (Grimes 1951) at Cymunod. The date of this urn is uncertain, but it could be Bronze Age, and almost certainly Prehistoric or Roman.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: None.

3. Old road or track, Cymunod SH33917782

Category D Impact: Likely

A hard-surfaced track now grassed over, running between Cymunod and the A5. Older maps suggest it did not go further than the A5, and it therefore appears to post-date the construction of that road.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: A watching brief during the early stages of construction should reveal the old surface, and a section should be recorded at an appropriate stage of the work.

4. Caer Elen enclosure SH32617808

Category B Impact: None

The ploughed out remains of an enclosure which once encircled the low hill, the summit of which is now occupied by a radio mast. Some traces were still visible in 1970, and slight traces are visible on aerial photographs. The age of the enclosure is not known, but it is assumed to be Iron Age and possibly Roman (c. 500 BC to 350 AD). It is unlikely that this site will be disturbed by the proposed road.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: None.

5. Possible field system N. of Caer Elen SH 32657826

Category E Impact: Slight

Very faint lines visible on the flank of the hill crowned by the radio mast and the Caer Elen earthwork. They may be ploughed-down remains of lynchets, representing a Prehistoric or later field system. Geophysical survey revealed a possible ploughed out field boundary, or early track, of unknown date, visible as a linear feature on aerial photographs. A reference is made in 1870 (*Archaeologia Cambrensis* p. 364) to a "paved road with kerbstones" passing south of Caer Helen, which may be this feature.

Recommendation for further assessment: A trial trench across the one of the potential lynchets, and across the linear feature which was visible on the magnetometer survey, would confirm their status as archaeological features.

Recommendation for mitigatory measures: The site will be reclassified following further evaluation.

6. Tyddyn Bulkeley SH32227851

Category E Impact: Considerable

The site is marked on the 1762 Penrhos Estate Survey as a single building associated with two fields called Tyddyn Bulkeley. It is possible that the field was once owned by the Bulkeley estate, but this could not be confirmed because of lack of access to the relevant manuscripts. There is no structure visible on the ground, but markings on aerial photographs suggest the former presence of a building in the location marked on the map. No magnetic anomalies were found during geophysical survey.

Recommendation for further assessment: Trial excavation to see if a structure exists at the location shown on the estate map.

Recommendation for mitigatory measures: Mitigation measures will be made following further evaluation.

7. Tyddyn Bwlch (or Bulkeley?) SH32147862

Category C Impact: Likely

Now visible as an agricultural building with an associated yard. The owners know the site as "Tyddyn Bwlch", but the Penrhos survey of 1769 shows a building associated with two fields called "Tyddyn Bulkeley" south of this field (see site 3) which may be a continuation of the name applied to a different building. The 1762 survey shows this plot of land in different ownership to the surrounding fields (marking it as "H Trevor's land"), but does not show a building upon it. However there is a building shown on the 1840 tithe map of the parish, when it was still in different ownership to the surrounding land, and called "Tyddyn Bach". Part of the remaining structure may well be 18th century in origin, although the present roof is 19th century. There are no datable architectural details inside, but the south gable may contain a blocked chimney. A dry ditch runs concentrically outside the south and east sides of the yard, separated from it by some 5m: this appears to mark the location of the original boundary of H Trevor's land.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Detailed recording if the structure is to be disturbed.

8. Standing Stone ² SH31127845

Category D/E Impact: Likely

An upright stone standing in the field south of site 3. There is a tradition of erecting cattle rubbing stones in this area, and a number are visible in the immediate vicinity. However the stone does lie very close to the location of the southern corner of the fields of Tyddyn Bulkeley, and may well be a stone which originally marked the south corner of the holding, and was left in when the remainder of the boundaries were removed. It is unlikely that the stone is of Prehistoric date, and indeed has fallen over and been re-erected in recent times. No magnetic anomalies were found during geophysical survey.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Record by photograph and written description prior to the start of any works, and survey in its location. Maintain a watching brief during the initial earth moving phases of construction.

9. Penmynydd house and track ^(House 8) SH32007863

Category B/D Impact: Slight

The proposed road passes across the track which connects Penmynydd to the A5. The house is referred to as both Mynydd Machdwn and Mynydd Machdun on the 1762 estate map, but as Mynydd Marchdun in the map schedule; it is referred to as Penmynydd Machno on the first edition 2" ordnance survey map (c. 1820), but is called Penmynydd on the tithe map and the first edition 1" ordnance survey. The drive between the A5 and the house appears to pre-date the construction of the A5 from the way it is indicated on the ordnance survey map, but the approach road to the house is not clearly indicated on the 1762 map.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Examine the structure of the track, if it is cut through, by conducting a watching brief at the time of construction. This may give some indication of age and changes of alignment.

10. Field system SE of Ysbylltir SH31337910

Category D Impact: Slight

A track and early ploughed out field boundaries are visible on aerial photographs NW of the site of the radio mast. The field remains are likely to be of the 17th century or earlier, and replaced in the 19th century, although no estate maps have been found to confirm this. The track cutting across the field is later than the ploughed out field boundaries.

Recommendation for further assessment:

Recommendation for mitigatory measures: Record the locations of the boundaries from aerial photographic evidence, and excavate a sample if they are to be disturbed.

11. Ysbylltir and Capel Lur SH31277930

Category E Impact: Unknown

Ysbylltir is mentioned in the 1352 extent of Anglesey as a township. The buildings at the present farm do not appear to pre-date the middle of the 18th century, but they may overlie earlier structures. However the location of any associated Medieval settlement is not known, although there are slight indications of buried settlement visible on aerial photographs in the field immediately SW of Ysbylltir, outside the line of the proposed road. A list of early chapels on Anglesey (Baynes, 1920) mentions Cappel Lur, by Sybylltir, Bodedern. The location of this chapel is not known.

Recommendation for further assessment: Geophysical survey and trial trenching SW of Ysbylltir if the area is to be disturbed.

Recommendation for mitigatory measures: None.

12. Tre Ifan SH30507863

Category E Impact: Unknown

Another Medieval site mentioned in the 1352 extent of Anglesey. The house was described as 17th century in the listed building description of c. 1960, but has since been renovated. It is not known if the existing site is the site of Medieval settlement, although it does appear to be the most suitable location. The proposed road passes some 300m north of the house.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: None.

13. Pen-caledog SH30107890

Category A Listed Grade II Impact: Slight

Described in the listed building list as "probably early 18th century 2 storey farmhouse.". The house was unoccupied and boarded up when visited, but appeared as described in the list. Despite its close relationship with the A5, it obviously pre-dates that road, although how access was gained to it is not clear. In 1840 it was a farm of 62 acres, and contained the field barn (site 14) at the southern limits of the farm.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Preservation in situ.

14. Field barn north west of Ty Mawr. SH30117871

Category C Impact: Likely

A field barn, now disused, is situated within a kink in the field boundary, as shown on fig. 2. It is marked on the tithe map of c. 1840 as two structures with an associated yard, and is on part of the land owned by Pen-caledog farm. It is now on land owned by Ty Mawr farm, and was in use into the middle years of this century. There is no evidence that it was once a small-holding, but this possibility should be borne in mind.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Full recording if the site is to be disturbed.

15. Well and associated windmill base, Ty Mawr SH29807859

Category D Impact: Likely

A stone walled enclosure at the base of a rock outcrop encloses a well, now contained within a concrete cylinder. Above the well, on top of the rock outcrop, is another stone walled enclosure which once housed an American style wind engine used to drive a pump for pumping water from the well.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Photographic survey and written description.

16. Remains of revetted track/field wall NW of Ty Mawr SH29787864

Category D Impact: Considerable

The remains of drystone walling are visible close to the base of a rock outcrop, running in an east-west direction. They appear to form the outer edge of a revetted track which skirts the base of the outcrop, although they could be the remains of a fieldwall.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Basic recording.

17. Field barn NW of Ty Mawr SH29597862

Category D Impact: Considerable

The remains of a stone built field barn with associated enclosures. The barn and enclosures are not marked on any of the maps examined, and appear to be of early 20th century date. Certainly corrugated iron once roofed the shed, although this does not date its construction.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Measured survey of ground plan, with photographic survey and written description.

18. Ty Mawr Tide mill SH295786

Category D Impact: Considerable

The former site of a tide mill, known from documentary evidence, but the remains of which were completely removed when the Chester to Holyhead Railway was built.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: None.

19. Pont Traeth Cleifiog SH29157860

Category A Listed Building Grade II Impact: Possible

A hump-backed bridge with a single arch of roughly squared stone voussoirs slight recessed below extrados course of narrow slabs. Probably built following the building of the cob to reclaim the Cleifiog sands in 1776-7. It contains an unusual bench mark which is inscribed onto a square stone built into the downstream parapet inside face, with the initials RP and LP, and underneath, in three lines, the words "CRUGLAS" and "TY NEWYDD"/SURVEYORS/1824.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Preserve in situ.

20. Stanley embankment SH27858020

Category A Impact: Likely

The embankment (sometimes called Pont Lasinwen), designed by Thomas Telford, was started in 1822 and opened in 1823. It is considered by civil engineers to be one of the principal engineering works on the road (Trinder, 1980; Sivewright, 1986), and Telford described it as one of his more difficult undertakings in Wales. The contractors for the job were Gill, Hodges and Co., and during the summer of 1822 there were over 350 men employed in its construction, and 7 vessels carrying stones from quarries at Red Wharf Bay (Hughes, 1963). The embankment was over 1300 yds in length, and because the tide rose 12 ft above the level of the sands, the embankment was made 16ft high, so that the roadway was 4ft above the level reached by the sea at high tide. The roadway itself was 24ft wide and protected by parapet walls. The cost of the construction of the embankment was £20,134. Its function was to carry the London - Holyhead road over the Afon Lasinwen, the tidal strait between Holy Island and Anglesey. The construction of the embankment changed the landscape south of the embankment, allowing the retention of a larger body of standing water now referred to as the Inland Sea. In 1846-8 the railway line was constructed along the south side of the embankment, and the south parapet wall was raised to divide the road from the railway.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: It is assumed that there will be little physical disturbance of the existing embankment, and that the principal change will be one of visual perception from the south side. A photographic survey and written description should be carried out prior to construction of the new road.

21. Pill box NE of Tre Gof. SH27218029

Category C Impact: Likely

A round pill box of the Second World War (type 25 in the typology given in Thomas, 1995), is situated on the edge of a former quarry overlooking the inland sea and the south side of the Stanley Embankment. The quarry has been used as a land-fill site, and levelled.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Detailed recording.

22. Tyddyn Bach SH26308057

Category C Impact: Likely

The remains of a small farmstead are situated just south of the railway line, and north of Treddaniel. Tyddyn Bach is shown on the 1762 estate survey as a consolidated holding on

Penrhos Estate. The house and buildings are now deserted, and the structures have been largely removed in recent years. The surrounding area has been heavily ploughed and planted with trees.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Basic recording, with some excavation if it is deemed necessary during the recording stage.

23. Trefigneth Farm SH25908073

Category C Impact: Considerable

Trefigneth farm was originally situated north of its later location, and is shown on the 1762 map as two small buildings. A small structure further north again is indicated on the 1887 1:2500 OS map, although nothing is visible now. However slight traces of former buildings are visible on aerial photographs. In the 19th century, Trefigneth was moved south, close to the chambered cairn, but that farmhouse has also now been removed, and the site is occupied by a series of sheep pens. The earliest known reference to Trefigneth is 1624, in the Bodewryd manuscripts (Smith and Lynch, 1987). Geophysical survey revealed a circular feature c. 5m in diameter of unknown status.

Recommendation for further assessment: Trial excavation in the vicinity of the earlier, northern, site, to see if a structure exists at the location shown on the estate map, and to investigate the nature of the circular feature.

Recommendation for mitigatory measures: Mitigation measures will be made following further evaluation.

24. Trefigneth Burial Chamber SH25858058

Category A Scheduled Ancient Monument Impact: None

This site lies some 200m south of the proposed road, but has been included because it is a scheduled ancient monument, and the proposed road will be visible from it. The site is a Neolithic chambered cairn, in its latest form it consists of a long trapezoidal shaped cairn containing three chambers. Excavation (Smith and Lynch, 1986) showed that the chambers denoted successive periods of use, and that the chambers were not used contemporaneously. Underlying the cairn was evidence of former Neolithic settlement.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: The visual effect of the proposed road from the site will be lessened by the backdrop of the existing railway line and the aluminium works. However, every effort should be made to avoid additional excessive visual intrusion.

25. Farms at Bonc Deg etc. SH25558082

Category C/D Impact: Slight

A series of cottages and associated small fields, depicted on early estate maps, but now all removed. Some of the remains are visible on aerial photographs. All the cottage sites lie south of the minor road, and so are unlikely to be disturbed. Some of the associated field systems, particularly that of Bonc Deg, may be disturbed.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: The field remains are no longer visible from the ground, and their archaeological remains will be very slight. No further archaeological work is recommended other than the watching brief which will accompany the early stages of road construction.

26. Ty Mawr Standing stone SH25408095

Category A (Scheduled) Impact: None

A standing stone, situated some 100m from the line of the proposed road, but included in the gazetteer because of its scheduled status.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: Every effort should be made to avoid excessive visual intrusion.

27. Buried ground surface west of Criglas SH28907871

Category E Impact: Slight

A peat horizon with wood remains was noted at this point during the excavation of a test pit (see appendix II, TP26). A number of submerged forests are visible off the coasts of Wales, and are usually considered to be of post-glacial date. The submerging appears to have occurred at different times, although a date sometime in the late second millennium (i.e. 1500 - 1000 BC) is suggested by the Bronze-age finds recovered from peat deposits at Llandudno. The area was tidal until the building of the Criglas cob in 1776-7.

Recommendation for further assessment: No known archaeological remains have been found associated with the buried land surface, but there is potential for such remains to exist. A watching brief would be difficult to carry out because of the depth and fragility of the deposits, and it therefore recommended that further evaluation in the form of boring and trial excavation is carried out to ascertain the potential for archaeological remains.

Recommendation for mitigatory measures: The site will be reclassified following evaluation.

28. Buried ground surface west of Cleifiog Uchaf SH28397960

Category E Impact: Slight

A peat horizon with wood remains as at site 27 above was noted at this point during the excavation of a test pit (see appendix II TP33). This site is also assumed to be a post-glacial ground surface, of similar date to site 27.

Recommendation for further assessment: Recommendations for this site are the same as for site 28, that is, further evaluation in the form of boring and trial excavation to ascertain the potential for archaeological remains.

Recommendation for mitigatory measures: The site will be reclassified following evaluation.

Field boundaries Category D

The pattern and nature of field boundaries are an important part of the historic landscape. Their construction, linear plan and ecological diversity can provide valuable information about the landscape and its evolution.

The most common types of field boundary in this area are stone faced earth banks and stone walls, often combined with a thorn hedge. Initial impressions are that the earliest field walls appear to be constructed from field clearance stone, and contain upright, i.e. vertical, stones within the wall, and a lack of quarried stone. Examples of this type are visible at Cerrig y Baban. The majority of field walls built between the 17th and 19th centuries, appear to have been stone faced earth banks, often lined with thorn hedges, which helped prevent erosion of the stone face. The majority of 19th century field walls are of quarried stone, and this also applies to the walls built during the construction of Telford's A5 and during the construction of the Chester to Holyhead Railway.

Recommendation for further assessment: None.

Recommendation for mitigatory measures: A descriptive survey should be carried out on all traditional field boundaries to be affected, including photographic recording.

Areas of unknown archaeological potential Category E

Previous results from similar projects have shown that many sites can only be detected by excavation. The finding of archaeological sites late in the construction programme can often cause tremendous difficulties, and it is therefore considered appropriate to undertake an

evaluation programme which will help identify sites at an early stage. The evaluation techniques suitable for this are geophysical survey and trial trenching, carried out both on specific areas identified during the archaeological assessment, and on a strategic sampling basis. This should be backed up by a continuous watching brief during the early stages of construction.

Recommendation for further assessment: *Specific sites, (i.e. Class E sites) noted in the archaeological assessment report should be further investigated by an appropriate archaeological technique. In addition, trial trenching, combined with geophysical survey, should be carried out for a percentage of the route (to be decided by Cadw: Welsh Historic Monuments, but 2% is a typical value).*

Recommended mitigatory measures: *A continuous watching brief should be maintained during the relevant stages of the road construction.*

5. SUMMARY OF RECOMMENDATIONS FOR FURTHER WORK AND MITIGATORY MEASURES

5.1 Further Assessment Work

This section summarises the work which is recommended to evaluate those archaeological remains whose status and extent are not yet established, i.e. sites in Category E. They will be reclassified and suitable mitigatory measures suggested following evaluation.

Category E - Sites needing further investigation

2. <i>Von Jones Corners</i>	
5. Field system N. of Caer Elen	Trial trenching
6. Tyddyn Bulkeley	Trial trenching
8. Standing stone	Trial trenching
11. Ysbyllidir and Capel Lur	Geophysical survey and trial trenching
12. Tre Ifan	None
27. Buried ground surface: Cruglas	Trial trenching
28. Buried ground surface: Cleifiog Uchaf	Trial trenching

Areas of unknown archaeological potential Geophysical survey/Trial trenching

5.2 Mitigatory Measures

This section lists the remaining sites according to category. The categorisation attempts to quantify the importance of the archaeological resource, as suggested in the 'Design Manual for Roads and Bridges' Volume 11, Section 3, Part 2.

Category A - National importance

1. Telford's A5 Road	Detailed recording
13. Pen-cledog house	Preservation <i>in situ</i>
19. Pont Traeth Cleifiog	Preservation <i>in situ</i>
20. Stanley Embankment	Preservation <i>in situ</i> and photographic survey.
24. Trefignath Burial Chamber	
26. Ty Mawr Standing stone	

Category B - Regional importance

4. Caer Elen enclosure	None
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Category C - Local importance

7. Tyddyn Bwlch	Detailed recording
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14. Field barn NW of Ty Mawr	Detailed recording
21. Pill box NE of Tre Gof	Detailed recording
22. Tyddyn Bach	Detailed recording
23. Trefigneth Farm	Detailed recording

Category D - Minor and damaged sites

3. Old road or track, Cymunod	Watching brief
9. Track, Penmynydd	Watching brief
10. Field system SE of Ysbylltir	Recording and watching brief
15. Well etc. Ty Mawr	Basic recording
16. Revetted track NW of Ty Mawr	Basic recording
17. Field barn NW of Ty Mawr	Basic recording
18. Ty Mawr Tide mill	None
25. Field system at Bonc Deg	None
Field boundaries	Basic recording

A continuous watching brief should be maintained along the whole route during relevant stages of the work, as some sites will not be evident until topsoil stripping reveals them, and sites identified in advance of the works may require further recording during construction.

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7. NON TECHNICAL SUMMARY

An initial archaeological assessment was carried out along the line of the proposed road, consisting of a desktop study and field walkover. The assessment was carried out in accordance with the *Design Manual for Roads and Bridges* Volume 11, Section 3, Part 2, Cultural Heritage, June 1993 (incorporating amendment number 1, August 1994). The initial assessment was followed by geophysical survey, and the monitoring of test pits.

The desktop study included examination of those records which make up the Gwynedd Sites and Monuments Record, held at Gwynedd Archaeological Trust, and also the record of archaeological sites which forms the National Archaeological Record held by the Royal Commission of Ancient and Historical Monuments at Aberystwyth. In addition, maps and other information were examined at the County Archives at Llangefni, and at the University of Wales, Bangor. Ordnance Survey maps and printed literature were also consulted. The field walk involved two people walking the entire length of the proposed road, when sites discovered from the desktop study were examined, and the location of additional sites were noted, and a written description made of each. All the sites were allocated to one of five categories (ranging from A to E), and mitigation proposals were recommended for each.

A total of 28 sites were recorded, some of which lie just off the route of the proposed road, but were included because of their importance, or because they lie immediately against the proposed road corridor. Six sites were allocated to Category A (*i.e.* national importance): two of these will not be directly affected by the proposed road (Ty Mawr standing stone (26) and Trefignath Burial Chamber (24)), but are included because of their scheduled status. Two of the Category A sites are listed buildings (sites (13) and (19)) and the proposed road will be designed to ensure these will not be directly affected. The remaining two sites are Telford's A5 road (1) and that part of his road known as the Stanley Embankment (20). The former will be affected in two places, and full recording is recommended in advance, the latter will not be physically affected.

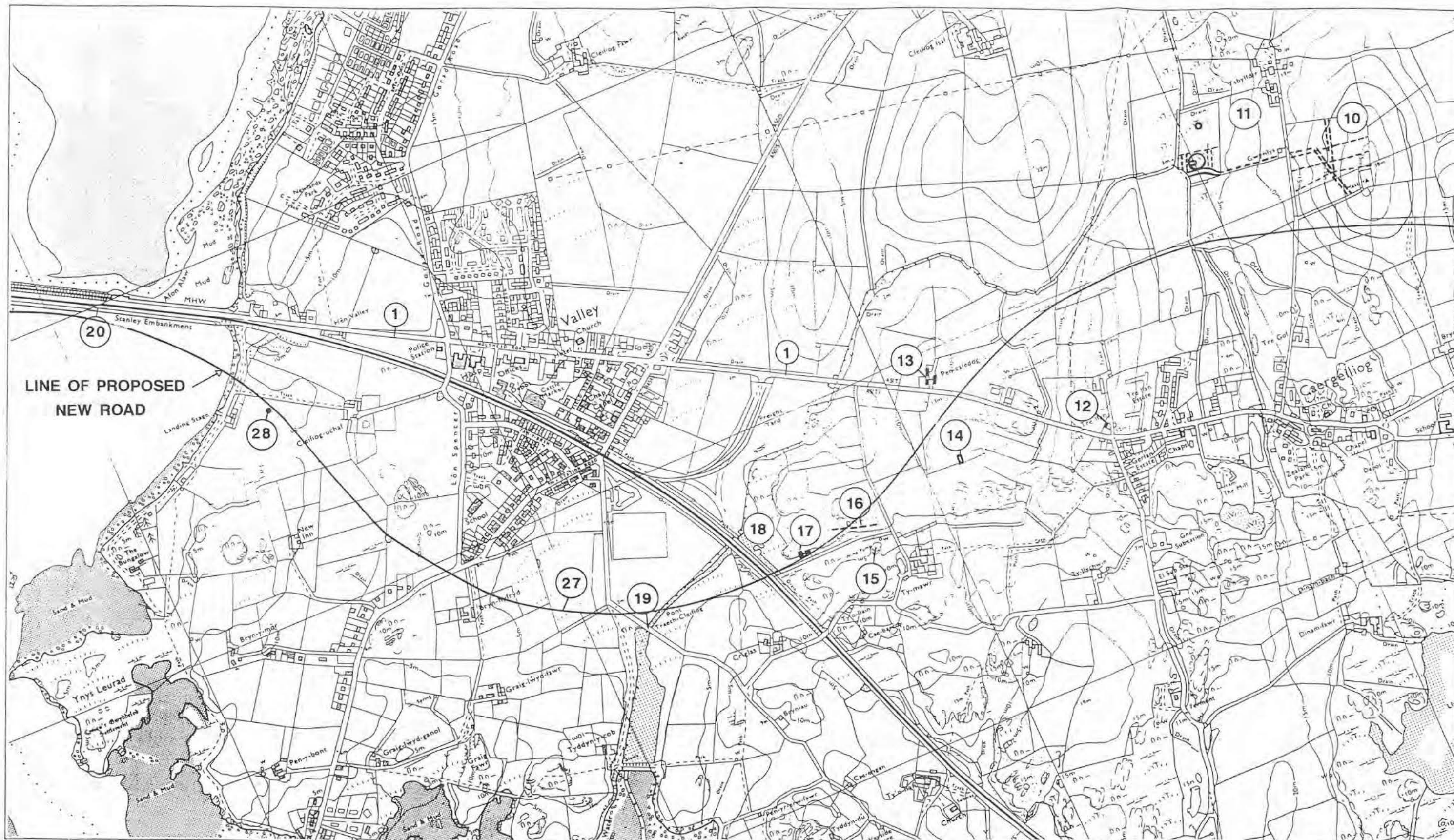
Only one site was considered to be of Category B (regional) importance: the enclosure at Caer Elen (4). This site will not be directly affected, but is lies adjacent to the proposed corridor, and possible associated earthworks (site 5) will be affected.


Five sites were considered to be of Category C status (local importance). The majority of these were deserted post-medieval farmsteads, although one Second World War pill box was included. Detailed recording was recommended for each.

Eight sites were placed into Category D (minor and damaged sites). Most of these were tracks or post-medieval field systems, of which only a part would be affected. A combination of basic recording followed by a watching brief was recommended for each.


Seven sites were placed into Category E (sites needing further investigation) where the nature of the site requires further clarification before appropriate mitigation measures can be recommended.

Additional geophysical survey is recommended to help locate unknown areas of archaeology, and a series of trial trenches are also recommended, the extent and location of which is to be decided, but which should approximate to some 2% of the area to be developed. It is also recommended that a watching brief is maintained during the initial stages of ground disturbance and that provision be made for the adequate recording of any sites which are identified at this late stage in the development.



<p>Client</p> <p>Y SWYDDFA GYMREIG ADAM Y CYFARWYDWR PRIFYRDO</p> <p>WELSH OFFICE HIGHWAYS DIRECTORATE</p>	<p>Key:</p> <p>—— LINE OF PROPOSED NEW ROAD</p>	<p>YMDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD</p> <p></p> <p>GWYNEDD ARCHAEOLOGICAL TRUST</p>	<p>WS Atkins-Wales a division of WS Atkins Consultants Limited</p> <p>Swansea Cardiff Colwyn Bay</p> <p>m Mott MacDonald</p>	<p>Title</p> <p>A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION) LOCATION OF ARCHAEOLOGICAL SITES</p> <p>Figure</p> <p>G1367 - FIG. 2 OF 3</p> <p>Rev</p>
<p>Project</p> <p>A55 Bryngwran to Holyhead</p>				



<p>Client</p> <p>Y SWYDOFA GWYREIG ADRAU Y CYFARWYDDWR PRIFYRDO</p> <p>WELSH OFFICE HIGHWAYS DIRECTORATE</p>	<p>Key:</p> <p>— LINE OF PROPOSED NEW ROAD</p>	<p>YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD</p> <p> GWYNEDD ARCHAEOLOGICAL TRUST</p>	<p>WS Atkins-Wales <small>a division of WS Atkins Consultants Limited</small></p> <p>Swansea Cardiff Colwyn Bay</p> <p>m Mott MacDonald</p>	<p>Title</p> <p>A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION) LOCATION OF ARCHAEOLOGICAL SITES</p> <p>Figure</p> <p>G1367 - FIG. 3 OF 3</p> <p>Rev</p>
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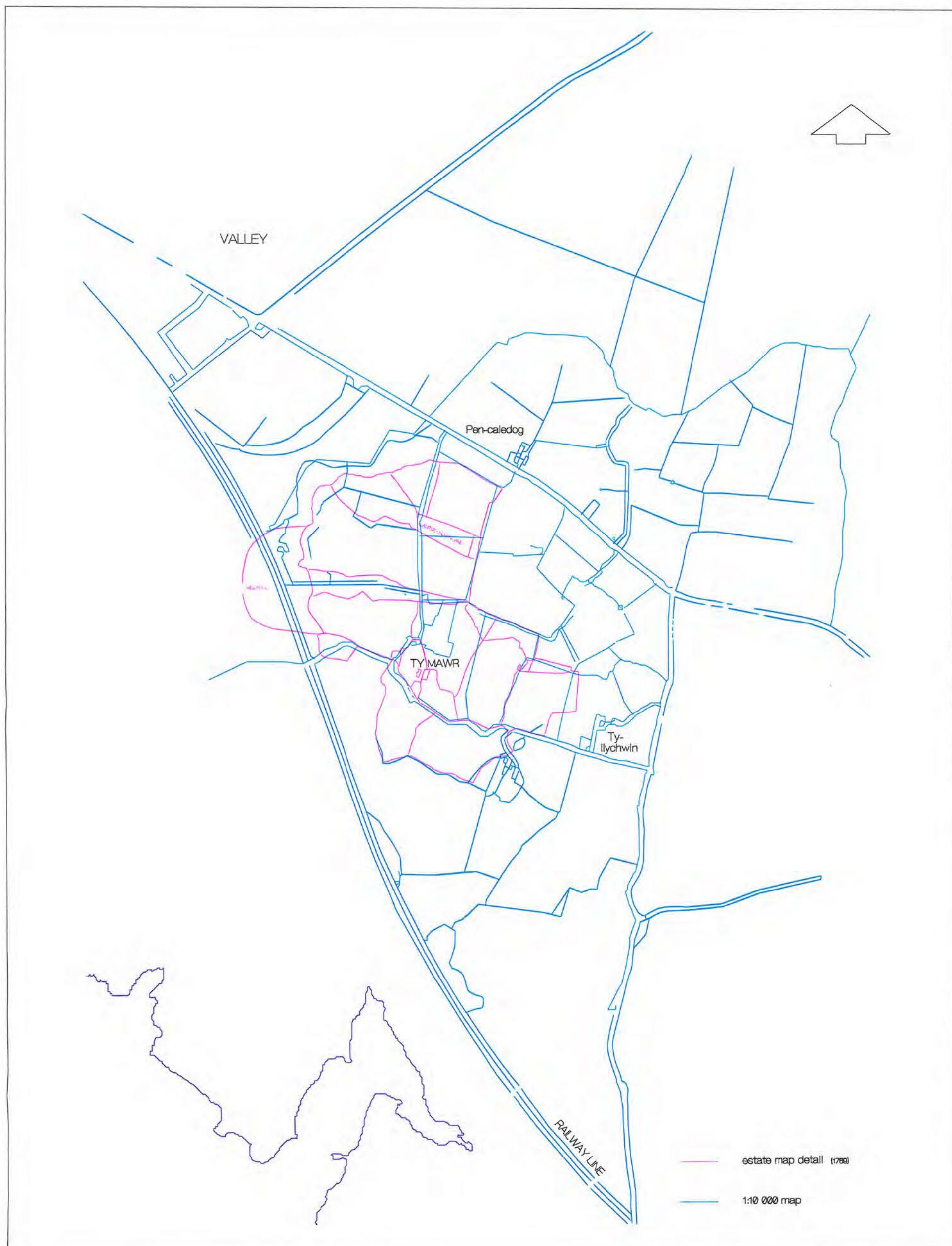


fig 4

G1367- A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION)

TY MAWR ESTATE (VALLEY)

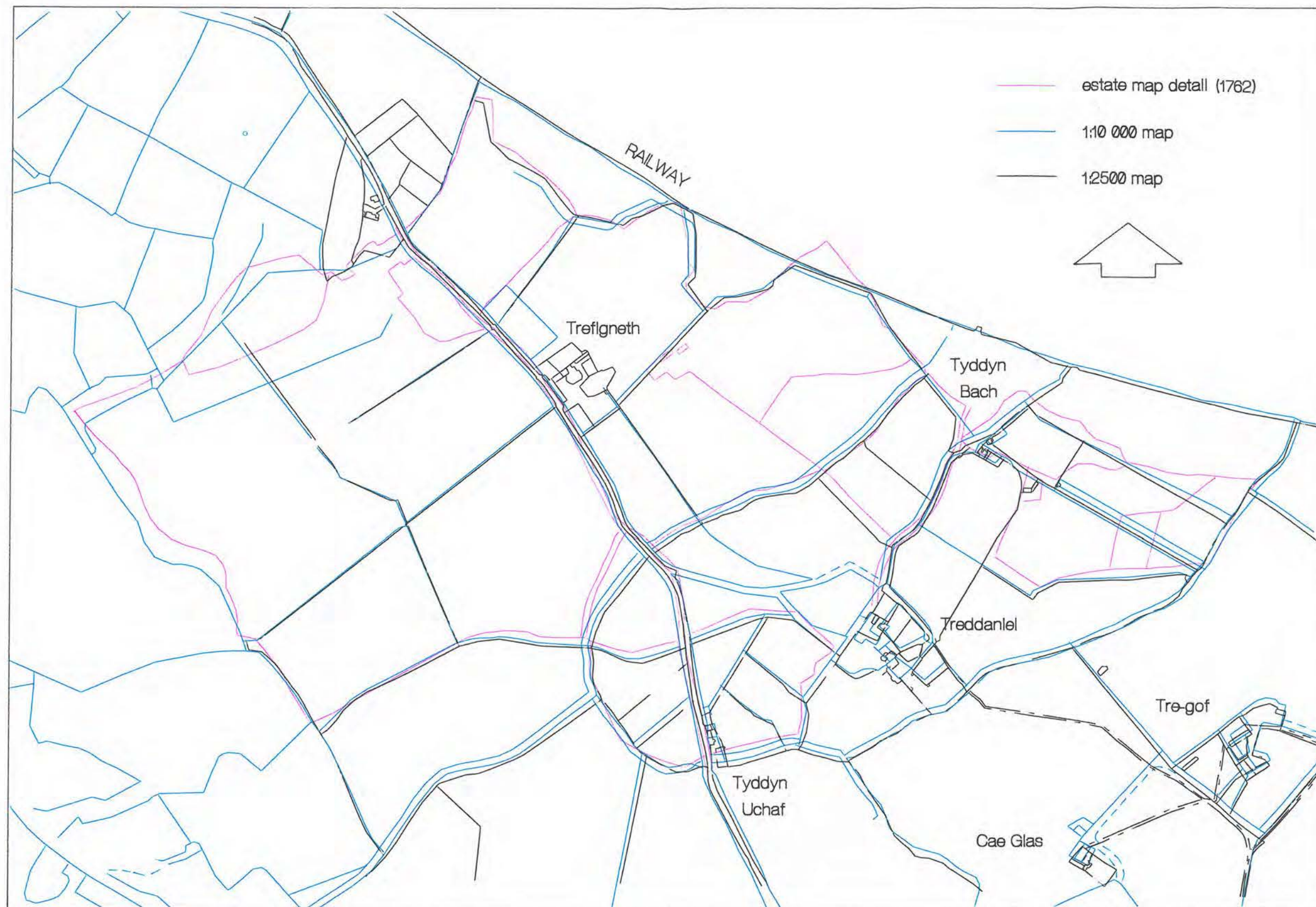


fig 5

G1367 - A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION)

PEN LON & TYDDYN BACH ESTATE

A55 BRYNGWRAN TO HOLYHEAD
(EAST SECTION)

ARCHAEOLOGICAL EVALUATION

APPENDIX 1

Attendance during ground investigation (G1377)

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION)

ARCHAEOLOGICAL EVALUATION

APPENDIX 1

Attendance during ground investigation (G1377)

prepared for W S Atkins Ltd
by R. Roberts and A. Davidson
graphics by L. A. Dutton
April, 1996

A55 BRYNGWRAN TO HOLYHEAD (EAST SECTION)

ARCHAEOLOGICAL ATTENDANCE DURING GROUND INVESTIGATION

1. INTRODUCTION

A series of soil test pits were dug along the line of the proposed road for engineering purposes. Archaeological attendance was invited during the digging of the pits to monitor possible archaeological remains.

The work was commissioned by W S Atkins Ltd acting on behalf of Welsh Office Highways Directorate. Gwynedd Archaeological Trust was contracted to monitor the excavation of the test pits undertaken by Soil Mechanics Ltd, which were designed to test the character of the soil and geology along the preferred line as part of the Ground Investigation.

An Archaeological Assessment has been carried out of the proposed route, and the findings presented in Gwynedd Archaeological Trust Report No. 190 *A55 Bryngwran to Holyhead (East Section) Archaeological Assessment (G1367)*.

2. AIMS AND METHODS

The main aim was to record any archaeological features, finds, or deposits which might be disturbed, but it was also expected that the information gained would provide an insight into the stratigraphy, in particular the depth of topsoil cover, at places of archaeological interest along the line of the route. The information gained will be used to inform future archaeological work.

A grade one watching brief (ie. the continual presence of an archaeologist on site) was carried out between the 30th January and 20th February 1996 by a number of Trust staff: a single person was in attendance at any one time. The test Pits, which were machine dug, were examined for any archaeological remains and their positions marked on copies of maps supplied by W S Atkins Ltd. Written descriptions were made detailing the stratigraphy of each test pit and a photographic record made of any archaeological features and of the sections of the more informative test pits. Notes were made of any interesting topographical details.

3. ARCHAEOLOGICAL FINDINGS

3.1 Introduction

The line of the preferred route crosses agricultural land mainly laid down to improved pasture, with occasional pockets of wet, low lying ground. The geology along the length of the route varies from Pre-Cambrian Green-mica-schists, spilitic lavas and jaspers of the New Harbour Group to Ordovician sandstone overlain by alluvium, marine alluvium, boulder clays and brown earths.

3.2 Description of the test pits

The test pits numbering sequence is that used by Soil Mechanics Ltd, and located on their maps.

Test pit 1

Topsoil (depth 0.25m) of mid-brown slightly sandy silt with inclusions of less than 5 % small angular and sub-angular stones. Three sherds of 19th century Buckley ware, of storage pot

type were found associated with the topsoil. Underlying the topsoil is a yellowish grey slightly sandy, gritty clay, which extends to a depth of 0.5m, this in turn overlies fractured bedrock (shale). Full extent of test pit 0.6m. No archaeological remains noted.

Test pit 2

Topsoil (depth 0.22m) of mid-greyish brown slightly sandy silty clay overlies a friable grey (with yellow mottling) slightly sandy gritty clay. The underlying layer is a bluish grey sandy clay extending to 1.35m. Weathered rock (schist and possibly shale) is common from a depth of 1.70m. The watertable stands at c. 2.25m. A greenish yellow slightly clayey sand with weathered rock (sandstone) lies between c. 2.30m and bedrock at 2.90m. No archaeological remains noted.

Test pit 3

Topsoil (depth 0.36m) of friable mid-brown sandy silt overlies a friable yellowish grey sandy clay. Watertable at a depth of 1.50m. Between 1.60m and 3.80m are mixed layers containing weathered fragments of blocky sandstone (Ordovician) and schist, these tend to be mainly schists between 3.80m and the bottom to the test pit at 3.90m. No archaeological remains noted.

Test pit 4

Topsoil (depth 0.26m - 0.28m) of greyish brown clayey silt overlies a slightly friable mottled yellowish grey slightly sandy clay with a small amount of grit. At a depth of 1.40m the clay was a more uniform grey and friable. A very narrow band (approximately 0.10m) of weathered bluish grey and orange sandstone lies at a depth of 1.70m. Below this was a mixture of orange gravels and weathered bedrock. Watertable at c. 2.45m. By 2.80m the weathered rock was grey in colour, consisting of weakly cemented sandstone. The maximum depth of the test pit was 4.70m. No archaeological remains noted.

Test pit 5

Topsoil (depth 0.12m) of greyish brown silty clay overlies friable light yellowish grey clay. At a depth of 0.95m - 1.0m frost shattered rock is encountered. Watertable at 1.40m. Maximum depth of test pit 2.60m. Test pit located within low lying damp area. No archaeological remains noted.

Test pit 6

Topsoil (depth 0.1m) of light brown soft very slightly sandy clay (no real topsoil), overlies a mottled light yellowish grey friable slightly sandy clay, included within this layer were rare large sub-rounded/sub-angular boulders (15cm x 10cm max) and occasional small sub-angular pebbles. Beneath this a narrow band of slightly gritty mid-greyish brown silty clay, between 0.70m and 0.90m. This layer dips slightly from north to south and was probably a former topsoil, which has been buried by later levelling. Beneath this another mottled grey and yellow friable slightly sandy clay. This becomes slightly smoother in consistency and is more consistent in colour (a brownish-grey clay with large amount of particular grits and small pebbles). Between 2.60m and 2.80m rounded and sub-rounded boulders are encountered. Between c. 3.0m and 3.50m is a mottled yellowish grey clay. At a depth of 3.60m large boulders impede progress and the test pit is abandoned. The test pit is situated on a road-locked island of rough wasteland. No archaeological remains were noted.

Test pit 7

Topsoil (depth 0.35m) of mid-brown clayey silt (one small fragment of 19th century blue china). Overlies mottled light yellowish grey friable slightly sandy clay. At 1.90m rounded boulders and weathered rock become common and the watertable is reached at 2.50m. Bedrock (schist) lies at 2.60m. The test pit is located north of a small standing stone (cattle rubbing stone) and lies within an area of slight undulations. No archaeological remains were noted within the test pit.

Test pit 8

Topsoil (depth 0.39m) of mid-grey brown slightly sandy clayey silt, overlies a slightly gritty

sandy clay. From a depth of c. 1.20m the clay becomes more friable and sub-rounded and sub-angular boulders, varying in size from small to large become frequent. At c. 2.0m this material is more sorted with less mottling of the clay. Maximum depth of test pit 2.30m. No archaeological features were noted.

Test pit 9

Not observed.

Test pit 10

Topsoil depth 0.25m. Pit not observed.

Test pit 11

Not observed.

Test pit 12

Not observed.

Test pit 13

Topsoil (depth 0.3m) of reddish-brown sandy silt overlies an orange-grey clay to a depth of 1.6m, which in turn overlies a grey clay to a depth of 3.45m. No archaeological features.

Test pit 14

Not observed.

Test pit 15

Cancelled.

Test pit 16

Topsoil (depth 0.57m) of reddish-brown sandy silt overlies a light yellowish grey very sandy friable clay with a high frequency of small - medium angular and sub-angular stones. No archaeological remains were noted.

Test pit 17

Topsoil (depth 0.08m) of mid-greyish brown clayey silt overlies a light greyish brown slightly sandy clay. The sandy clay seals a firm black fibrous peat deposit between 0.60m and 1.0m. An intermediate layer of soft light grey clay c. 0.10m in width, separates the peat from a further peat deposit; again a firm deposit, though mid-brown in colour. The peat extends to a depth of 1.20m, and overlies a light grey silty sand. At c. 1.60m a 20cm band of peat was noted. This overlies a light grey clayey silt with rare gravels, which by 3.30m/3.40m becomes grittier/and more gravelly. Around 3.50m/3.60m is a grey silt which continues to a depth of at least 4.40m. The maximum depth of the test pit is 4.40m. The watertable is encountered at a depth of only 0.36m; the test pit is located in a badly drained enclosure of rough land, a brackish pond is located immediately to the south.

Test pit 18

Topsoil (depth 0.40m) of reddish brown slightly sandy silt which overlies a light yellowish grey clayey sand with inclusions of occasional small angular and sub-angular gravels. At a depth of 1.20m a change was noted with coarse gravels and moderately sorted small - medium sized weathered rock fragments with occasional larger rocks. This material immediately overlies a dark-greyish brown silty sand. The watertable lies at 2.60m. Bedrock and maximum depth of the test pit lies at 3.10m. No archaeological remains observed.

Test pit 19

Topsoil (depth 0.77m) of reddish brown slightly clayey silt with few small sub-rounded and sub-angular gravels and pebbles. This overlies a mid-brown sandy silt to a depth of 0.87m. Below this layer, over the north-west side of the test pit is a dark greyish brown, almost black layer of slightly organic sandy silt, some 0.09m deep. The latter deposit appears to be the result of the silting up of a slight naturally formed hollow. Beneath this layer, and below the

mid-brown sandy silt to the south-east half of the pit is a light yellowish brown slightly clayey and silty sand to a depth of 1.30m. A silver grey coarser slightly clayey silty sand underlies the latter layer and becomes more friable by a depth of 2.15m. The watertable is at a depth of 2.60m. Weathered bedrock (schist) is reached below this depth. No archaeological remains were noted.

Test pit 20

Topsoil (depth 0.4m) of reddish-brown sandy silt overlies a compact light-greyish brown clay containing some stone to a depth of 3.9m. No archaeological features.

Test pit 21

Topsoil (depth c. 0.4m) of reddish-brown sandy silt overlies a light-greyish brown coloured gravelly clay to a depth of 2.1m and directly overlies bedrock. No archaeological features.

Test pit 22

Topsoil (depth 0.2m) of reddish-brown sandy silt (?) overlies a light-greyish brown/grey sandyclay to a depth of 0.3m, again directly overlying bedrock. No archaeological features.

Test pit 22a

Topsoil (depth 0.2m) of orange-brown clayey silt (?) overlies a grey/dark-reddish brown sandy clay to a depth of 1.2m, in turn overlies a light-bluish grey clay to a depth of 2.4m. This overlies a very stony grey clay which turns light greyish brown towards the base of the pit (maximum depth of pit 3.3m). Water encountered at a depth of 2.45m. No archaeological features.

Test pit 23

Topsoil (depth 0.4m) of orange-brown silt overlies an orange-grey clay to a depth of 1.0m, this overlies a grey clay to bedrock (grey shale) at 0.3m. At a depth of 0.4m a land drain was noted aligned south-north across the test pit; the north end was 30cm lower. The linear feature comprised sub-rounded stones up to 10cm in diam./length. No other remains were visible.

Test pit 24

Topsoil (depth 0.28m) of mid-brown sandy silt with occasional inclusions of angular and sub-angular gravels and small pebbles. Overlies a yellowish grey silty clay with occasional small angular and sub-angular stones. The sub-soil becomes more silty and gravelly before reaching a depth of c. 1.90m. The watertable is reached at 3.90m and bedrock at 4.10m. No archaeological remains.

Test pit 25

Topsoil (depth 0.09m) of greyish brown silty sand with occasional small angular and sub-angular gravels and pebbles, which overlies a friable gravelly grey clay to a depth of 0.18m. Below to a depth of 0.32m is a yellowish grey sand, which overlies a band of coarse grey sand to a depth of c. 0.9m. This directly overlies a light grey coarse (gritty) sandy clay. Occasional rounded/sub-rounded boulders noted at c. 1.4m. A further change in strata was noted around the 2.0m mark with a more gritty and stony greyish brown silty clay (boulder clay?). Water strike made at 4.40m. No archaeological remains.

Test pit 26

Topsoil (depth 0.06m) of reddish-brown sandy silt overlies a light-grey clayey sand, at a depth of 0.13m this merges into a deposit of sea sand with shell/mollusc remains (cockles etc), indicating the former open estuarine nature of the area. Below, at a depth of 0.9m is a blue grey clay which overlies a peat horizon at 1.2m, this extends to 1.7m in depth (ie. the thickness of the peat deposit is c. 0.5m). Included within the fabric of the peat are fragments of birch bark, birch twigs and larger pieces of wood up to 15cm x 5cm; charcoal fragments are also present. Below the peat is a blue-grey water deposited clay, which extends down to over a depth of 4m.

Test pit 27

Topsoil (depth 0.23) of mid-brown gritty clayey silt overlies a grey clay. No archaeological features.

Test pit 28

Topsoil (depth 0.33m) of mid-brown sandy silt overlies a natural yellow clay above frost-shattered bedrock. No archaeological features.

Test pit 29

Topsoil (depth 0.29 - 0.3m) of mid-brown slightly gritty sandy silt with inclusions of small angular and sub-angular gravels, which overlies a friable yellowish clay to a depth of 0.65m. Underlying are yellowish grey gravels. The watertable is at 0.9m and bedrock at 1.0m. No archaeological features noted.

Test pit 30

Topsoil (depth 0.5m) of reddish-brown sandy silt overlies a layer of brown sand and gravel to a depth of 1.7m, which in turn overlies a grey band of sand and gravel to a depth of 2.8m. Water is encountered at a depth of 1.7m. No archaeological features.

Test pit 31

Topsoil (depth 0.4m) of reddish brown sandy silt overlies a light orange / grey friable clay to a depth of 1.0m. This clay darkens and eventually turns light-greyish brown in colour at a depth of 2.8m. Around 3.0m grey-green boulders are frequent and by 3.9m bedrock is encountered. No archaeological features.

Test pit 32

Topsoil (depth 0.6m) of reddish-brown silt overlies natural sand and gravels, varying from orange-brown to mid-brown and grey-brown. The watertable is at 3.0m. No archaeological features.

Test pit 33

Sandy topsoil merging into sandy/gritty grey silts. At 1.8m depth dark brown peaty layer with wood fragments 0.5m deep. Light grey clay overlying bedrock. Final depth of hole 3.2m.

Test pit 34

Not observed.

Test pit 35

Not observed, but apparently contained thin top layer of recently formed spongy peat

Test pit 36

Not observed - landfill site.

Test pit 37

Not observed - landfill site.

Test pit 38

Not observed - landfill site.

Test pit 39

Not observed - landfill site.

Test pit 40

Topsoil (depth 0.25m) of dark-brown silt directly overlies bedrock (schist) at 0.25m. No archaeological features.

Test pit 41

Topsoil (depth 0.3m) of orange/reddish brown sandy silt overlies sub-soils of mixed

grey/brown clays which turn into silty clays at depth. Bedrock (schist) is encountered at a depth of 2.45m. No archaeological remains noted.

Test pit 42

Topsoil (depth 0.3m) of reddish brown sandy silt overlies a mixed grey/brown silty clay to a depth of 3.75m where it directly overlies bedrock (schist). No archaeological features.

Test pit 43

Topsoil (depth 0.3m) of reddish brown sandy silt (iron horseshoe recovered from topsoil) overlies mixed grey/brown clays which turn more silty at depth and directly overlie bedrock (schist) at 3.0m. No archaeological remains noted.

Test pit 44

Not observed.

Test pit 45

Not observed.

Test pit 46

Topsoil (depth 0.3m - 0.4m) of mid-brown silt overlies a sub-soil of orange-brown clayey sand or sandy clay to between 0.6m and 0.8m in depth. Weathered bedrock (shattered schist) underlies this layer to a depth of 1.8m and bedrock. The watertable lies around 1.1m in depth. The deposits were noted to dip to the north end of the test pit. No archaeological features.

Test pit 47

Topsoil (depth 0.3m) of dark brown silt overlies a grey slightly sandy and gravelly clay. Water seepage was observed to start at this level. At a depth of 1.3m the sub-soil becomes an orange sandy clay which overlies a firm light greyish brown silt (no water penetration of this deposit). Below, to a depth of over 4.0m, are dark greyish brown sands and gravels. Water noted to rise quickly on reaching these sands and gravels. The test pit was abandoned due to collapse. No archaeological features noted.

Test pit 48

Topsoil (depth 0.3m) of reddish brown (slightly sandy?) silt overlies a grey clay to a depth of 0.7m. The underlying layer is of weathered bedrock to a depth of 1.65 and bedrock proper. No archaeological remains noted.

Test pit 49

Topsoil (depth 0.3m) of orange-reddish brown (slightly sandy?) silt (a fragment of 19th century Buckley ware) overlies a very stony grey clay to a depth of 1.0m. Below, to a depth of c. 2.0m, is a grey smooth sandy clay (containing fibrous root material), underlying the latter, to a depth of c. 3.0m, is a smooth light brown silt with sandy clay inclusions. The watertable is reached at 3.0m. From the watertable down dark-greyish brown sands and gravels were recorded, this continues to the base of the test pit at 4.1m. No archaeological remains noted.

Test pit 50

Topsoil (depth 0.2m) of dark-brown loose silty sand overlies a soft brown clay (with rootlets) to a depth of 0.6m, below this is a firm deposit of brown fibrous peat to a depth of 1.2m. This overlies a firm grey clay. At a depth of 3.4m a stiff light-brown silt with sands and gravel was encountered, this continued to the base of the test pit at 4.3m. The pit is situated in a marshy area; a land drain cut across the test pit diagonally on a south-east - northwest alignment at a depth of 0.5m. The fill of the drain comprised rough angular blocks of local stone.

Test pit 51

Topsoil (depth 0.3m) of reddish brown slightly sandy silt overlies a very stony grey clay to a depth of 1.0m. Below is a layer of weathered bedrock. The maximum depth of the test pit is 2.0m. No archaeological remains noted.

Test pit 52

Topsoil (depth 0.6m) of reddish brown slightly sandy silt overlies an orange-brown gravelly sub-soil to a depth of 0.90m, below this are alternate bands of light brown sands and gravel to a depth of 4.4m. Water encountered near base of test pit, i.e. 4.4m. No archaeological features.

Test pit 53

Topsoil (depth 0.3m ?) of reddish brown slightly sandy silt overlies a stony grey clay. Water is encountered at 1.7m. The test pit was abandoned at a depth of 2.6m due to collapse. No archaeological features.

Test pit 54

Topsoil (depth 0.3-0.4m) of reddish brown slightly sandy silt overlies an orange-brown silty sand to a depth of 0.6m, which in turn overlies a natural sub-soil of yellowish grey clay which turns a uniform grey at depth. No archaeological features.

Test pit 55

Topsoil (depth 0.3m) of reddish brown slightly sandy silt overlies an orange-brown silty sand to a depth of 0.6m, this layer dips to a depth of 1.2m towards the west corner of the test pit; here water seepage was first noticed at a depth of c. 1.5m. Underlying this layer of sand is a yellowish grey clay which turns grey at depth. No archaeological features.

Test pit 56

Topsoil (depth 0.3m) of reddish brown slightly sandy silt overlies a mottled orange, yellow and grey stony clay. Between a depth of 1.9m and the base of the test pit at 4.10m is a light-greenish grey stony clay. Water is encountered at 1.9m, and a gravel band (?) was observed at this point. No archaeological remains.

Test pit 57

Topsoil (depth 0.4m) of dark-brown/reddish brown sandy silt overlies a moderately stony mottled orange, yellow and grey clay. The latter material turns a uniform grey towards the bottom of the pit (4.2m). Gravels noted in region of 1.8m, where water first entered test pit. No archaeological features observed.

4. INTERPRETATION

A total of forty three test pits were observed. A number of land drains were noted, and pottery scatters of 19th century date, but no other archaeological features.

The most interesting pits were those containing peaty remains with wood fragments, particularly pits 26 and 33, which showed evidence of post-glacial sub-merged forests adjacent to the coast edge. It is recommended that further work be carried out at these sites to see if any archaeological remains are associated with the early ground surfaces.

The information regarding topsoil depth will be of practical use during future archaeological investigation of the route, especially with regards to the siting of any future archaeological trial trenches and the methods employed in their excavation.

5. ACKNOWLEDGEMENTS

Gwynedd Archaeological Trust would like to thank Alun H R Davies of W S Atkins and Soil Mechanics Ltd's Ground Investigation team, in particular Richard Piggen, for their friendly co-operation.

A55 BRYNGWRAN TO HOLYHEAD
(EAST SECTION)

ARCHAEOLOGICAL EVALUATION

APPENDIX 2

Geophysical Survey (G1399)

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

A55 BRYNGWRAN TO HOLYHEAD
(EAST SECTION)

ARCHAEOLOGICAL EVALUATION

APPENDIX 2

Geophysical Survey (G1399)

prepared for W S Atkins Ltd
by R. Roberts, D. Hopewell and A. Davidson
graphics by L. A. Dutton
April, 1996

A55 ANGLESEY STAGE 3

BRYNGWRAN TO HOLYHEAD, EAST SECTION (G1399).

GEOPHYSICAL SURVEY

1. INTRODUCTION

This report contains the results of a geophysical survey carried out at selected sites along the line of the proposed Anglesey A55 Bryngwrان to Holyhead (East Section). The sites selected for survey arose from the initial archaeological assessment of the route, which comprised a desktop study and field search.

Gwynedd Archaeological Trust was contracted by the Welsh Office to carry out the survey. Four sites of potential archaeological significance were surveyed.

2. METHODOLOGY

2.1 Aims

The aim of the survey was to identify any magnetic anomalies of potential archaeological significance at the following sites which were identified during the initial archaeological assessment:

Site 5: Caer Elen
Site 6: Tyddyn Bulkeley
Site 8: Standing stone SE of Penmynydd
Site 23: Trefigneth farm.

The fieldwork was carried out by two members of GAT staff between 21st and 26th of March 1996.

2.2 Technical Summary

A Geoscan Research FM36 fluxgate gradiometer was used for the survey. The designated areas were first assessed by generalised scanning and then surveyed in detail in 20m x 20m grids. Readings were taken at 0.25m intervals with a traverse width of 1m giving 1600 readings per grid. The data was then transferred to computer for processing and display using the Geoplot 2.01 program.

2.3 Display

The results are displayed in the report as:

- i) 1:2500 location maps.
- ii) Shade plots, where the data is represented by varying the number of randomly scattered dots with the magnitude of each reading.
- iii) X-Y trace plots which show the data as a series of line graphs.
- iv) Interpretation diagrams, where the information from the survey is summarised.
- v) Histogram

Plots are derived from unenhanced data where possible although, in some cases, filtering or

compression is necessary to display low intensity features. Any such treatments are described in the individual site descriptions.

2.4 Survey Conditions

Several weeks of unusually wet weather had caused a degree of water-logging in all of the survey areas. Moderate to strong winds, coupled with rain during the survey introduced some additional noise into the data.

3.0 SURVEY RESULTS AND RECOMMENDATIONS

Site 5: Field system N. of Caer Elen (figs. 6-9)

The intention had been to survey the fields towards the summit of the hill where evidence from aerial photographs had indicated possible archaeological features (which would not be affected by the current proposals), and to try to relate those features to the ones lower down the slope and adjacent to the A5 road which would be affected. Unfortunately the three fields around the summit had been planted with corn, and it was not possible to gain access to them. Three grids were therefore surveyed in those fields adjacent to the A5, two 80m x 20m and one 40m x 40m. The responses were noisy across the western two of the three grids (Area 3: Grid 1 (fig. 7) and Area 3: Grid 2 (fig. 8)), and there were no indications of archaeological features.

Area 3: Grid 3 (fig. 9)

The eastern of the three grids, arranged down a slight slope, was situated to the south-west of a small quarry which now forms a pond. The survey results can be divided into two areas: the upper left or north-west area is significantly more noisy than the lower right or south-east part and it is probable that this represents a ploughed-out field boundary. A large piece of buried iron is shown at the bottom left corner of the plot. The trace plot shows data low-pass filtered to minimise the effects of background noise.

3.1 Site 6: Tyddyn Bulkeley (fig's 10-13)

Area 1: Grid 1 (fig. 11)

A strong linear response (labelled "A" on fig. 11) was detected running diagonally across the centre of the area on a SW-NE alignment. Magnetic anomalies of this nature are usually of natural origin, but in this instance it may be caused by a large drain, represented on the west as a dry ditch with a capped drain running beneath, and to the east as a slight linear hollow.

Also visible on the survey results are parallel anomalies, labelled "B" on fig. 11, which are ploughing ridges, of probable post-medieval date. These are just visible on the ground under low light conditions.

Area 1: Grid 3 (fig. 12)

Within this grid are a well defined series of parallel anomalies which are again interpreted as ploughing ridges. They are aligned NNE - SSW, in alignment with the existing field boundaries, and therefore considered to be post-medieval in date.

Site 8: Standing stone (fig's 10-13)

Area 1: Grid 2 (fig. 13)

Similar parallel anomalies, indicating ploughing ridges, were detected in this area. No archaeological features associated with the stone were found, although the background geological noise was greater around the stone, making the identification of features less likely.

Site 23, Trefigneth farm (figs. 14-16)

This area was surveyed to establish whether any structural remains exist of the earlier farmstead at a location indicated on the 18th century estate map. Two separate grids were surveyed, one of 60m x 20m down a north-east facing gentle slope, the other a single grid (20m x 20m) in the south corner of a largely low-lying damp enclosure.

Area 2: Grid 1 (fig. 15)

The linear and circular anomaly (labelled "A" on fig. 15) may be of archaeological significance, and should be investigated if it is to be disturbed. Numerous 'iron spikes' were visible on the trace as characteristic magnetic dipales, and these are put down to the presence of small iron objects (nails etc) noted by the surveyor on the surface of the field.

Area 2: Grid 2 (fig. 16)

A high level of soil noise encountered within the grid, particularly in the bottom right of the plot, marks the north edge of a gas pipeline. No archaeological features were noted within this grid.

4.0 SUMMARY

A magnetometer survey was carried out on four sites which had previously been identified as containing potential archaeological features. Modern agricultural features in the form of ploughing ridges, drains and grubbed up field boundaries were found on three of the sites. One possible archaeological site (feature "A") was noted at site 23: further investigation is recommended for this feature. The lack of archaeological features at the remaining sites is not conclusive evidence that no features remain, merely that they could not be recognised by magnetometer survey.



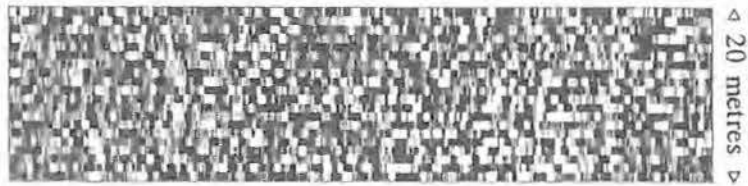
A55 GRADIOMETER SURVEY Area 3

fig 6

Site 5 : Caer Elen see fig 1 for location of site

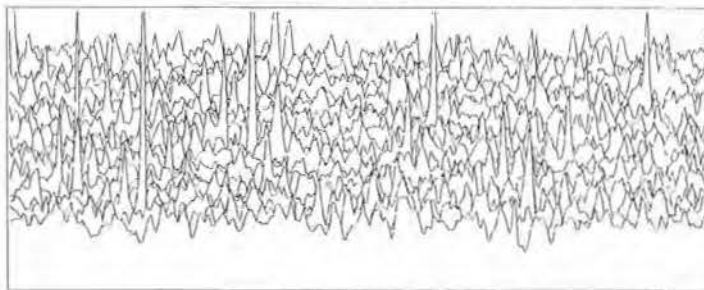
A55 GRADIOMETER SURVEY Area 3 / Grid 1

SHADE PLOT

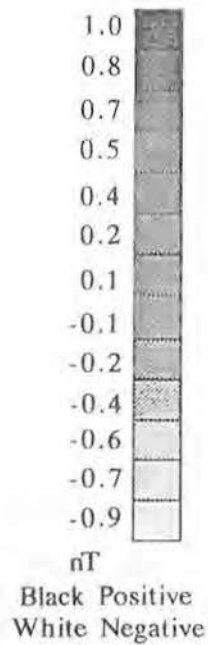


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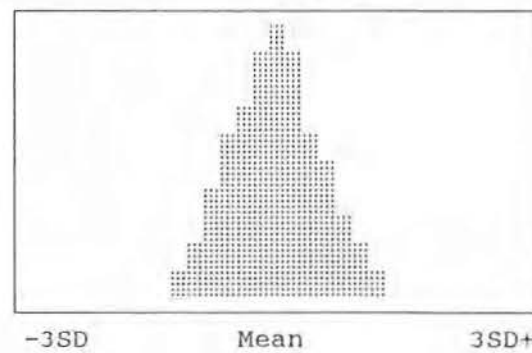
TRACE PLOT



Resolution 5.0 nT/cm
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HISTOGRAM

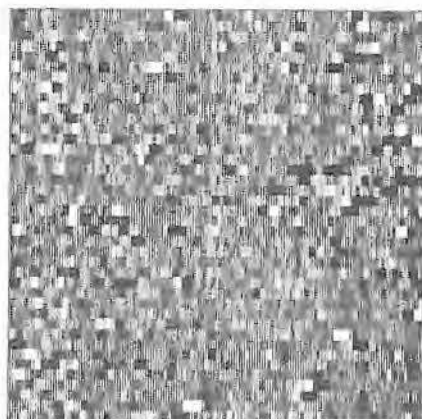


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SD	1.13811		
3 SD	3.41433		
Min.	-24.87867		
Max.	25.17534	Dum.Val.	2047.5

fig 7

A55 GRADIOMETER SURVEY Area 3 / Grid 2

SHADE PLOT

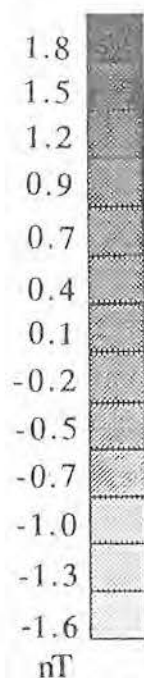


Data clipped to -1 + 1 nT

TRACE PLOT

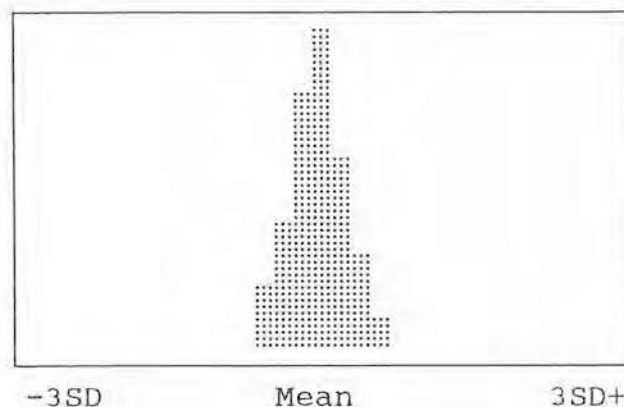


Resolution 10.0 nt/cm
Hidden Line On



Black Positive
White Negative

HISTOGRAM



Statistics			
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Max.	55.81515	Dum.Val.	2047.5

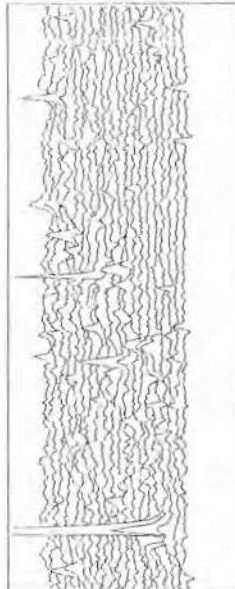
A55 GRADIOMETER SURVEY Area 3 / Grid 3

SHADE PLOT



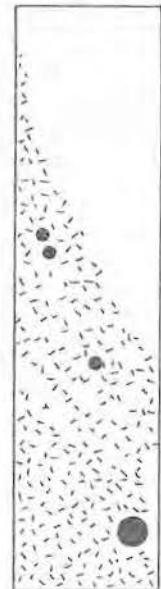
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TRACE PLOT



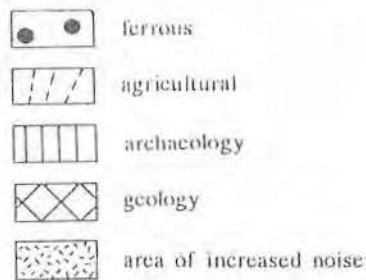
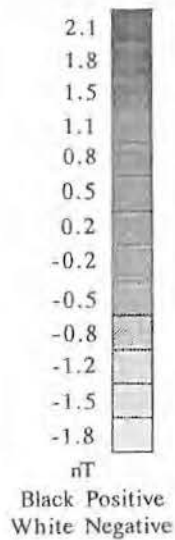
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INTERPRETATION

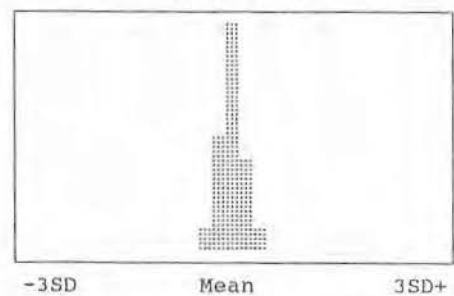


<20 metres >

N ←



HISTOGRAM



Statistics			
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3 SD	12.70368		
Min.	-177.57101		
Max.	103.52898	Dum.Val.	2047.5

fig 9

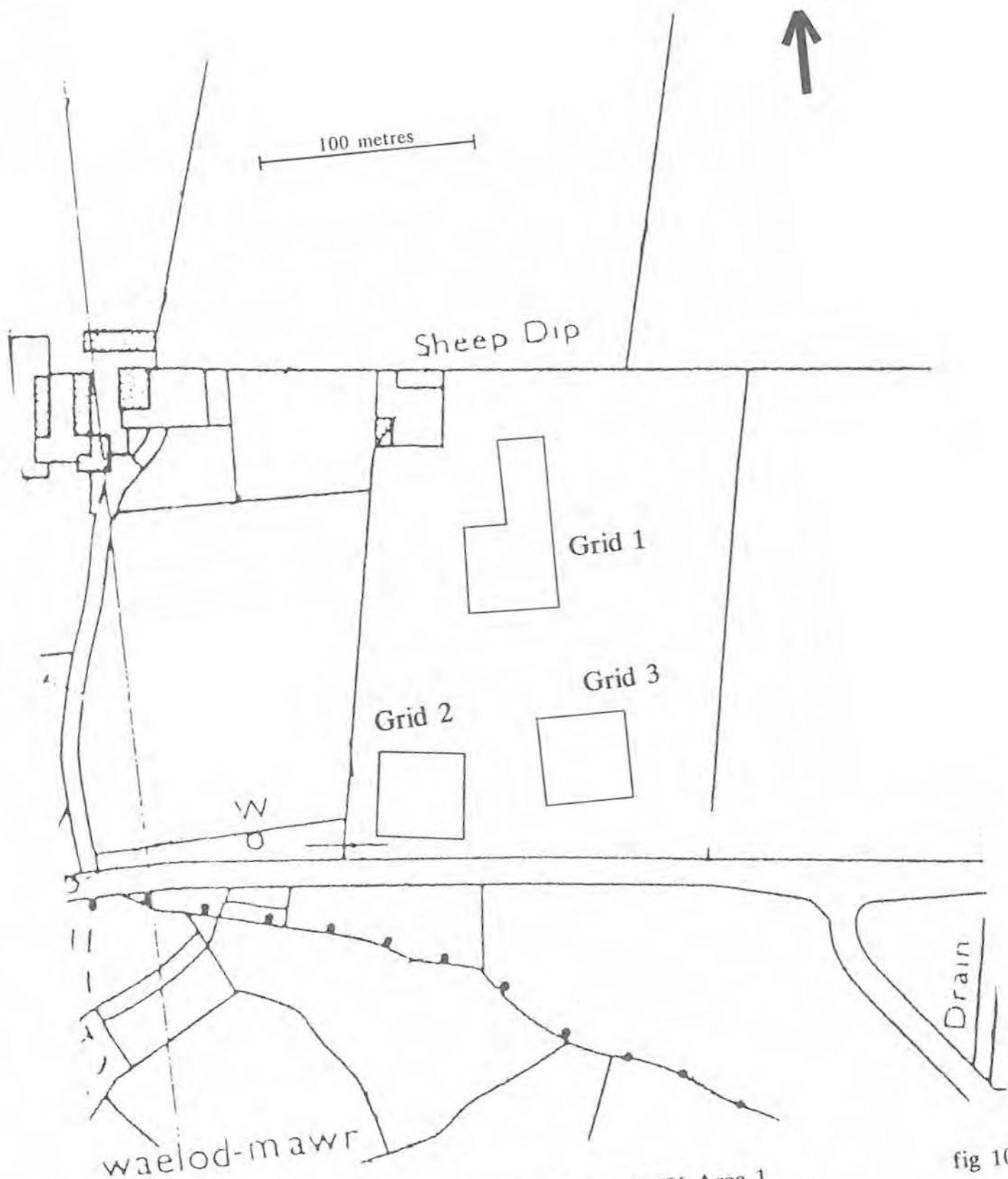


fig 10

A55 GRADIOMETER SURVEY Area 1

Site 6 : Tyddyn Bulkeley (Grids 1 & 3)

Site 8 : Standing stone (Grid 2)

see fig 1 for site location

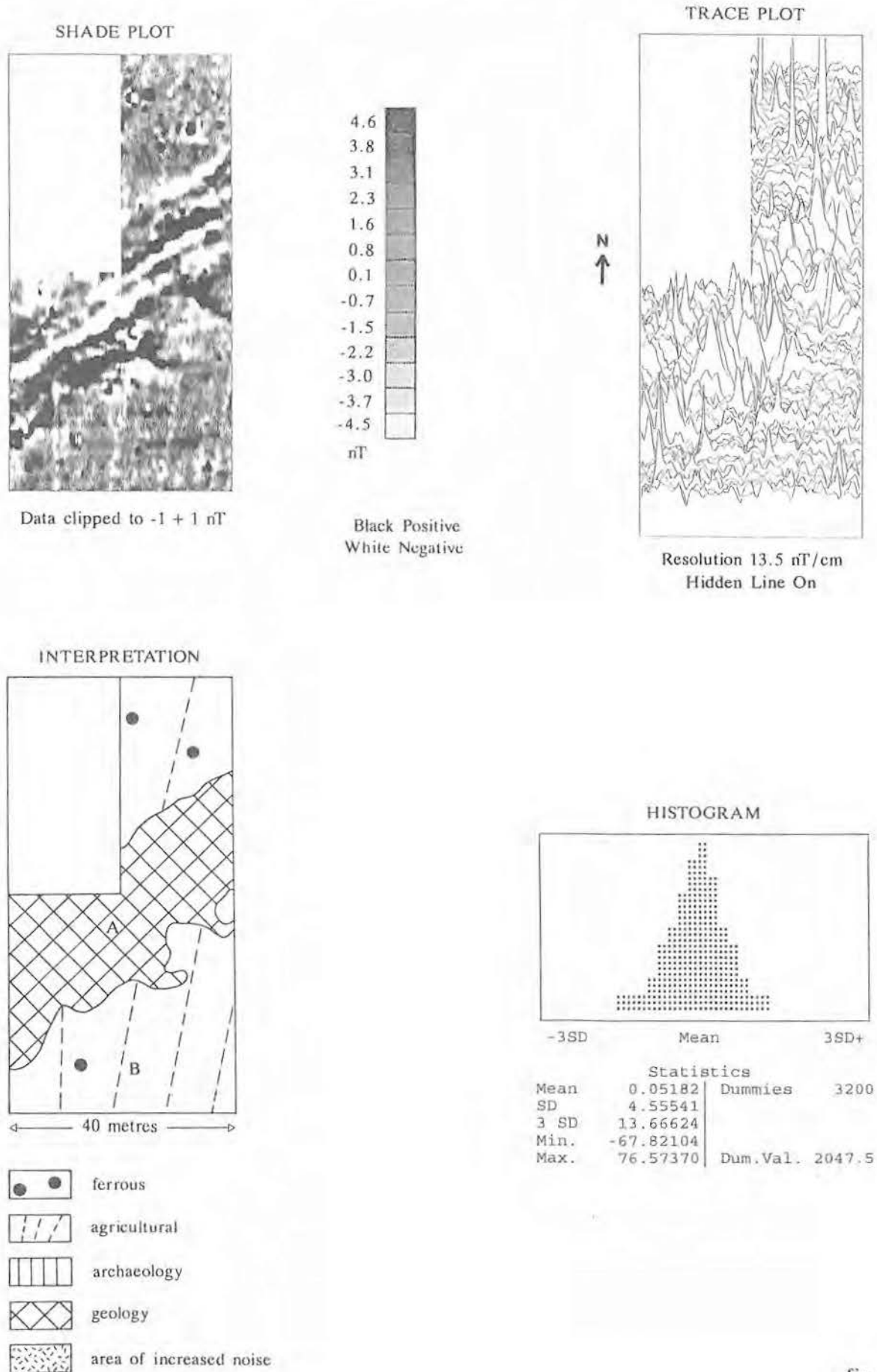


fig 11

A55 GRADIOMETER SURVEY Area 1 / Grid 3

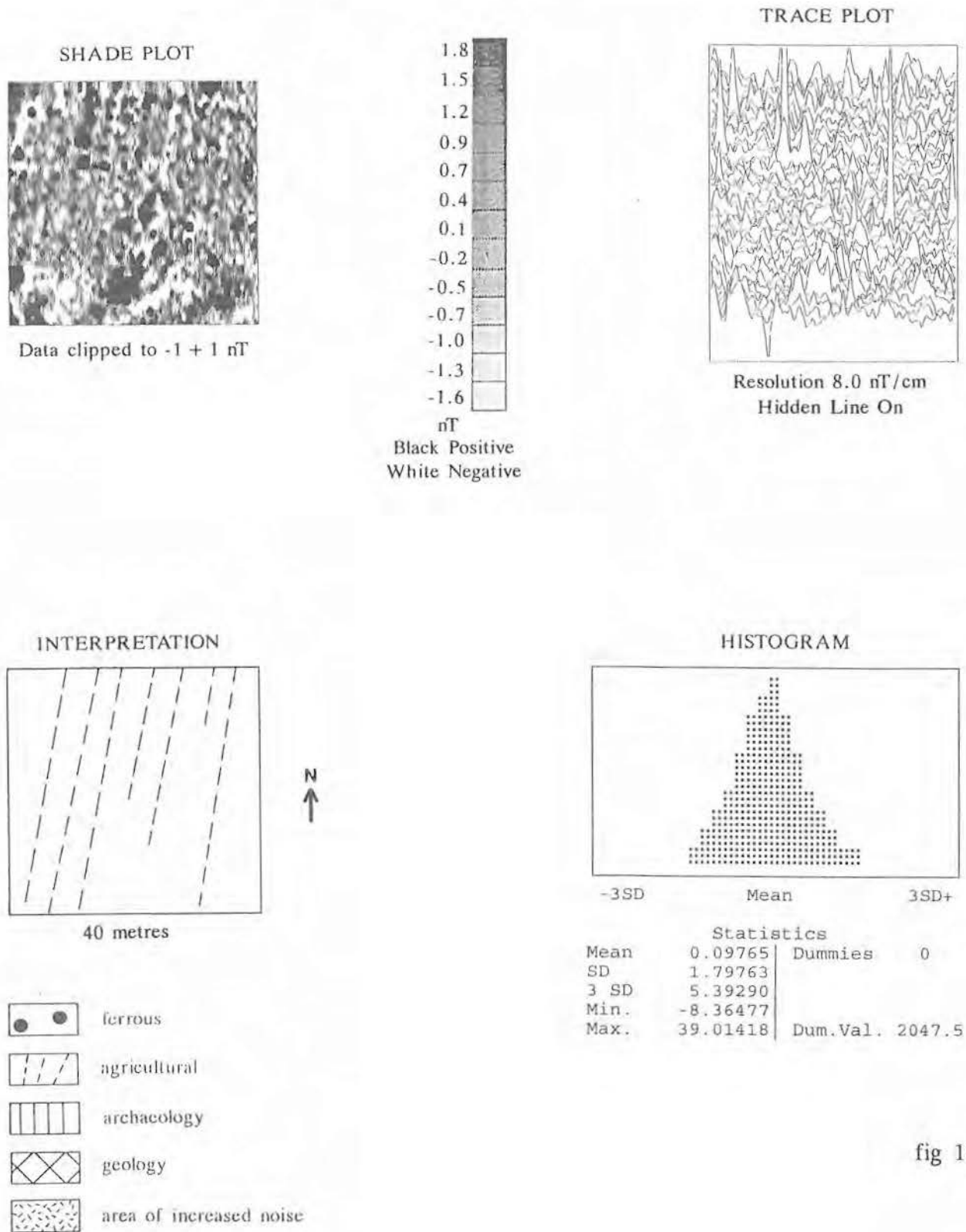
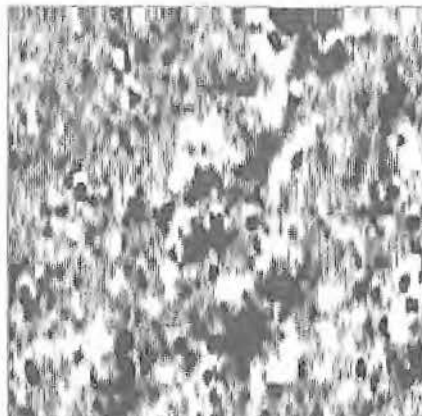


fig 12

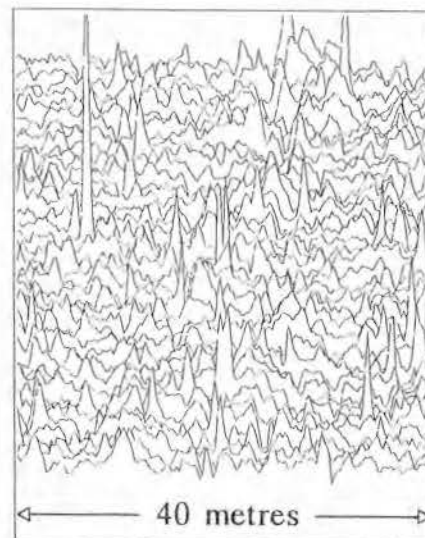
A55 GRADIOMETER SURVEY Area 1 / Grid 2

SHADE PLOT



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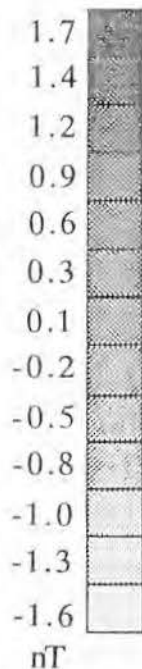
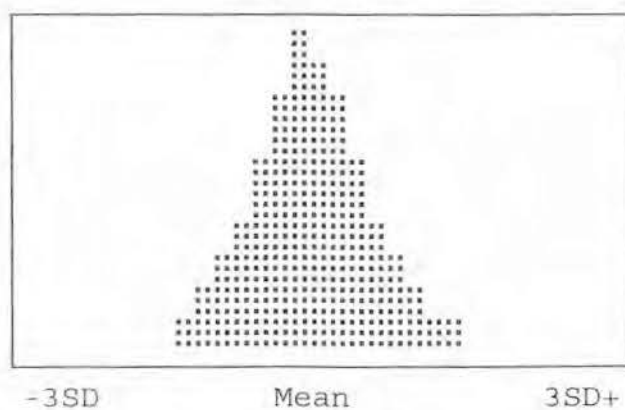
TRACE PLOT



40 metres

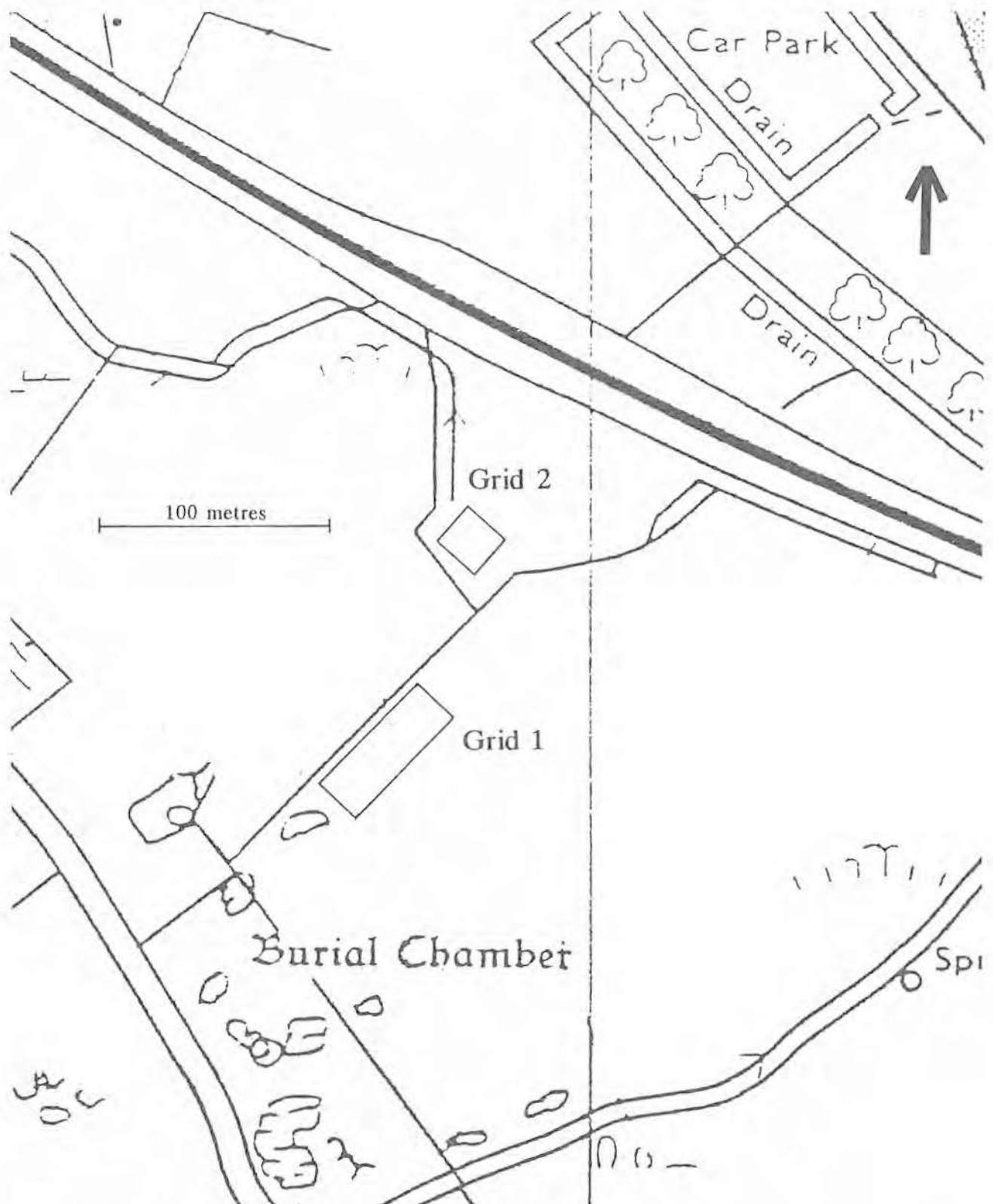
Resolution 12.1 nt/cm
Hidden Line On

HISTOGRAM



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White Negative

Statistics			
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SD	2.04883		
3 SD	6.14649		
Min.	-26.88539		
Max.	41.83533	Dum.Val.	2047.5



A55 GRADIOMETER SURVEY Area 2

fig 14

Site 23 : Trefigneth see fig 3 for location of site

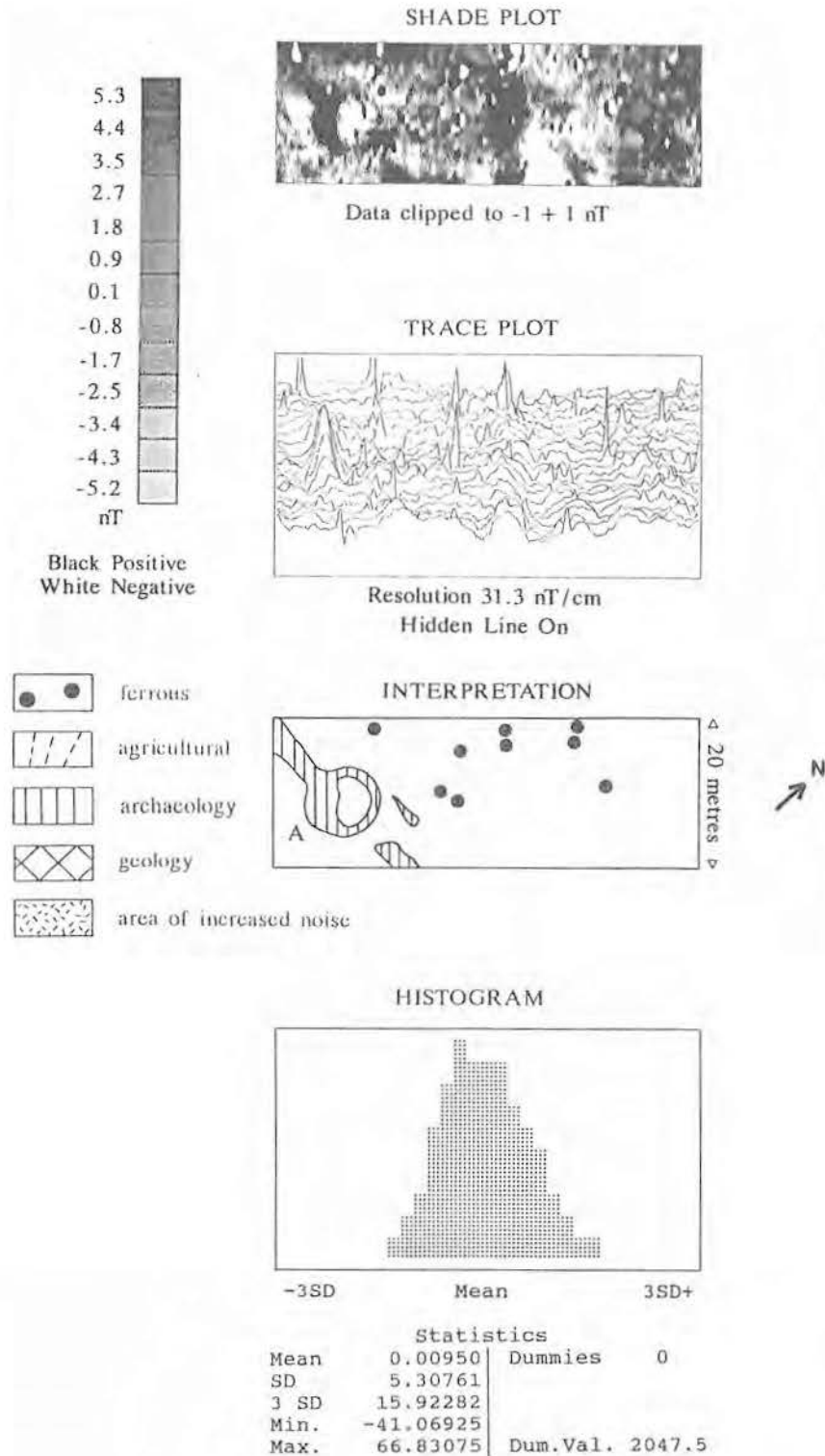
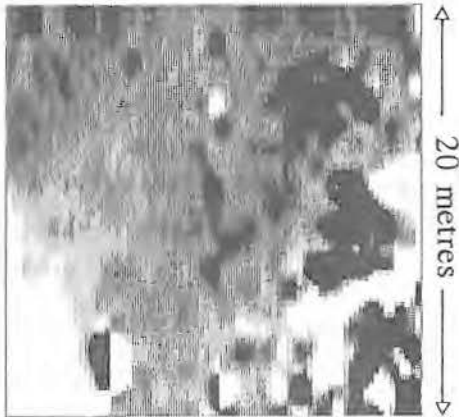


fig 15

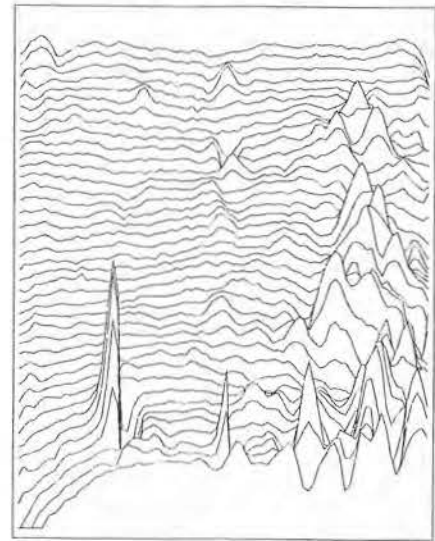
A55 GRADIOMETER SURVEY Area 2 / Grid 2

SHADE PLOT

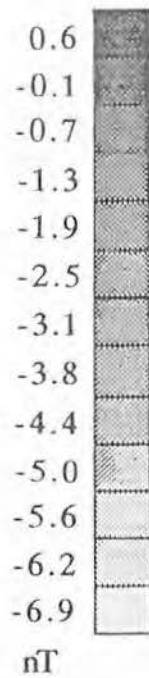


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TRACE PLOT

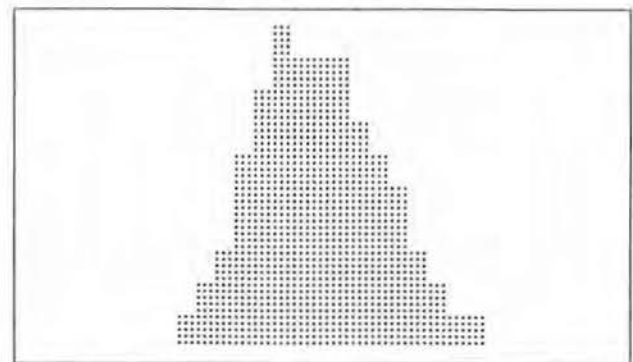


Resolution 18.3 nT/cm
Hidden Line On



Black Positive
White Negative

HISTOGRAM



-3SD Mean 3SD+

Statistics			
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SD	5.30761		
3 SD	15.92282		
Min.	-41.06925		
Max.	66.83075	Dum.Val.	2047.5

