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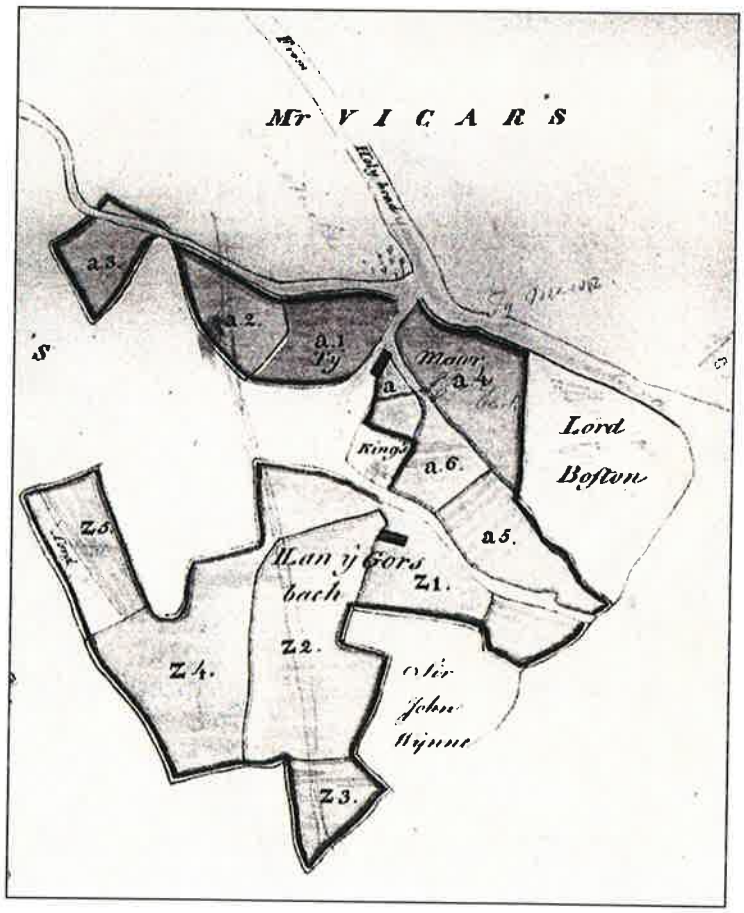
Penrhos Industrial Estate Development Holyhead



Archaeological Assessment

GAT Project No. 1847
Report No. 545
October 2004

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust
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Penrhos Industrial Estate Development Holyhead

Archaeological Assessment

Report No. 545

Event 54765

Prepared for Capita Symonds

October 2004

By

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Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust

PROPOSED INDUSTRIAL ESTATE, PENRHOS, HOLYHEAD

ARCHAEOLOGICAL ASSESSMENT (G1847)

Summary
An archaeological assessment has been undertaken of an area of land at Penrhos, Holyhead, where an existing industrial estate and retail centre is to be expanded. An examination of 18th century estate maps and later records reveals an early agricultural landscape of strip fields, that was largely enclosed by the mid-18th century. Further re-alignment of fields took place in the later 19th century. Construction of a large aluminium works adjacent to the study area in the 1960's, and later development to the west, caused removal of the remaining farms and field systems, so that nothing now remains of the agrarian landscape. Telford's Holyhead road of 1824 lies under the proposed development site, though it is sealed by some 3m of overburden, and is unlikely to be disturbed. However, detailed recording of this feature is recommended should it be disturbed by development.

1 INTRODUCTION

Capita Symonds have asked Gwynedd Archaeological Trust to undertake an archaeological assessment of a plot of land (centred on SH 25538142) at Penrhos, Holyhead, in advance of the creation of an industrial estate (see fig 1).

2 SPECIFICATION AND PROJECT DESIGN

An initial report was requested from Gwynedd Archaeological Trust, assessing the likely archaeological impact of the plans and suggesting mitigatory measures.

The basic requirement was for a desk-top survey of the area of interest in order to assess the likely impact of the scheme on the archaeological and heritage features within the area. The importance of known archaeological remains was to be assessed and areas of archaeological potential to be identified. Measures to mitigate any impact on the archaeological resource were to be suggested.

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

a) to identify and record the cultural heritage of the area to be affected

b) to evaluate the importance of what was identified (both as a cultural landscape and as the individual items which make up that landscape)

c) to recommend ways in which damage to the cultural heritage can be avoided or minimised

3 METHODS AND TECHNIQUES

3.1 Desk-top Study

Consultation of maps, computer and written records and reference works relating to the study area and its environs, which make up the Sites and Monuments Record, was undertaken at Gwynedd Archaeological Trust. Records (including early Ordnance Survey maps, tithe maps and schedules, estate maps and papers and reference works - see bibliography) were also consulted in the library and the archives of the University of Wales, Bangor, and the county archives at Llangefni. Aerial photographs were inspected at the offices of the Countryside Council for Wales.

3.2 Report

All available information was collated, and sites were allocated to a category of importance as defined below. Recommendations for further evaluation are given in the relevant sections of this report.

The categories listed below follow the guidelines given in *Planning and the Historic Environment: Archaeology* (Welsh Office circular 60/96). The allocation of a site to a category defines the importance of the archaeological resource of that site.

The following categories were used to define the importance of the archaeological resource.

Category A - Sites of National Importance.

This category includes Scheduled Ancient Monuments (SAM's), Grade I and II* (and some Grade II) Listed Buildings and sites of similar quality, i.e. those which would meet the requirements for scheduling or listing at the top two grades. There is a prresumption in favour of preservation of all such sites and their settings should they come under threat. Such sites might include those that survive principally as buried remains.

Category B - Sites of Regional Importance

This includes sites that would fulfill the criteria for listing at grade II (if a building), but not for scheduling (if a relict archaeological site). Nevertheless, such sites are of scheduling or listing (grades I or II*), 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

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and Damaged Sites

These are sites, which are of minor importance, or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites, rapid recording either in advance or during destruction, should be sufficient.

Category E - Sites needing further investigation

Sites, the importance of which 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.

Definition of field evaluation techniques

Field evaluation is necessary to allow the reclassification of the category E sites, and to allow the evaluation are areas of land where there are no visible features, but for which there is potential for sites to exist. Two principal techniques can be used for carrying out the evaluation: geophysical survey and trial trenching.

Field visit

This part of the assessment involves visiting the study area and its environs, assess any sites identified during the desk-based study, and to assess any other sites which may exist as above ground features. All sites noted are photographed and their present condition recorded.

Geophysical survey

This technique involves the use of a magnetometer, which detects variation 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 the gradiometer. Strong readings can be produced by the presence of iron objects, and also hearths or kilns.

Other forms of geophysical survey are available, of which resistivity survey is the other most commonly used. However, for rapid coverage of large areas, the magnetometer is usually considered the most cost-effective method. It is also possible to scan a large area very rapidly by walking with the magnetometer, and marking the location of any high or low readings, but not actually logging the readings for processing.

Trial trenching

Buried archaeological deposits cannot always be detected from the surface, even with geophysics, and trial trenching allows a representative sample of the development area to be investigated. Trenches of an appropriate size can also be excavated to evaluate category E sites. These trenches typically measure between 20m and 30m long by 2m wide. The turf and topsoil is removed by mechanical excavator, and the resulting surface cleaned by hand and examined for features. Anything noted is further examined, so that the nature of any remains can be understood, and mitigation measures can be recommended.

Definition of Mitigatory Recommendations

Below are the measures that may be recommended to mitigate the impact of the development on the archaeology.

None:

No impact so no requirement for mitigatory measures.

Detailed recording:

Requiring a photographic record, surveying and the production of a measure drawing prior to commencement of works.

Archaeological excavation may also be required depending on the particular feature and the extent and effect of the impact.

Basic recording:

Requiring a photographic record and full description prior to commencement of works.

Watching brief:

Requiring observation of particular identified features or areas during works in their vicinity. This may be supplemented by detailed or basic recording of exposed layers or structures.

Avoidance:

Features, which may be affected directly by the scheme, or during the construction, should be avoided. Occasionally a minor change to the proposed plan is recommended, but more usually it refers to the need for care to be taken during construction to avoid accidental damage to a feature. This is often best achieved by clearly marking features prior to the start of work.

Reinstatement:

The feature should be re-instated with archaeological advice and supervision.

4 ARCHAEOLOGICAL BACKGROUND

4.1 Topographic description

The study area is situated on Holy Island (in Welsh, Ynys Cybi), off the western coast of Anglesey, to which currently it is joined by the Stanley Embankment, and also by the bridge at Four Mile Bridge (Pont Rhyd y Bont). Holyhead (Caer Gybi) is the principle town on Holy Island, and the proposed development lies to the

south-east of the town. The study area lies to the west of the aluminium works, and is bounded to the south by the railway and to the north by the A5.

Geologically Anglesey is composed largely of Pre-Cambrian rocks, most notably the Mona Complex. These bedded rocks have undergone intense pressures leaving them deformed and folded, and volcanic events have resulted in their interbedding with lavas, ashes and tuffs. These make up much of the bedrock of Holy Island.

The bedrock under the study area is composed of pale green chlorite schists, part of the New Harbour Group of the Mona Complex. Boulder clay overlies this, with the bedrock outcropping in places, and occasional patches of glacial gravels. The soils formed over these substrates are brown earths of the Rocky Gaerwen and Trisant types (Geological and soil survey maps). These soils can carry crops or excellent pasture, and were frequently chosen for settlement in the prehistoric period. The rocky Gaerwen soils are shallow with frequent rock outcrops, and farms and fields tend to be smaller on these soils than on deeper soils.

Like much of Holy Island, the topography of the study area and its environs is characterized by north-east to south-west aligned rocky ridges within intervening boggy hollows.

4.2 Archaeological and historical background

The town of Holyhead expanded in size and importance after the development of the port for use by packet boats to Ireland, but it has a long history, and this is reflected in the archaeology of the area.

4.2.1 Prehistoric

There is evidence of Neolithic, Bronze Age and later prehistoric activity. Two Neolithic tombs lie within the vicinity of the study area – these are discussed below. Four Neolithic polished stone axes have been found in the northern part of Holy Island. Those found closest to the study area are two axes from the Graiglwyd axe factory, above Penmaenmawr, found when excavating the pit for a new turntable at the locomotive sheds near Kingsland in 1926 (PRN 2507, SH 2504 8165), and one axe of unspecified stone found at Penllech Nest (PRN 2506, SH 251 816).[1]

Two Bronze Age barrows were prominently situated on top of Holyhead Mountain (PRN 1760, SH 219 829), though little can be seen of them now. There are others at Garn (PRN 3804, SH 21408276) and Gorsedd Gwlwm (PRN 3798, SH 227 816), and a cemetery of three barrows at Porth Dafarch (PRN 1772-6, SH 234 801). A barrow was recently discovered under the early Christian cemetery at Ty Mawr (SH 2520 8135). The Ty Mawr standing stone is one of several such stones in this part of Holy Island. There is another to the south, next to Stanley Mill (PRN 2009, SH 2664 7888), and a rare pairing of two stones just over 3m apart, to the west at Plas Meilw (PRN 2748, SH 227 809).[2]

4.2.2 Iron Age and Roman

The island has several notable Iron Age and Roman period sites. Holyhead is dominated by its mountain, to the north-west of the town. The summit is enclosed by a stone rampart wall forming the hillfort of Caer y Twr (PRN 1760, SH 219 829). A much smaller promontory fort, Dinas on the south coast of Holy Island (PRN 807, SH 223 794), is probably also Iron Age. This promontory is surrounded by high cliffs and a low bank runs along the edge of the chasm, which separates it from the mainland. These forts were probably defensive refuges, and the population lived in more hospitable areas. Towards the foot of the south-western slope of Holyhead Mountain are a group of huts near another Ty Mawr (PRN 1755, SH 211 820) and a similar hut group overlie the Bronze Age barrows at Porth Dafarch (PRN 2754, SH 234 801). Excavation at Ty Mawr, an area of 140 hectares immediately adjacent to the study area on the opposite side of the railway, revealed intense activity from the first millennium BC to the third century AD, as well as earlier prehistoric and post-Roman settlement evidence.[3]

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[1] F. Lynch, *Prehistoric Anglesey; the Archaeology of the Island to the Roman Conquest* (Llangefni, 1991), p. 62.
[2] Lynch, *op cit.*, p. 152, p. 155.
[3] Gwynedd Archaeological Trust, *Land at Ty Mawr, Holyhead: Archaeological Assessment* (Report 389, November 2000 [and revisions] for Symonds Group Ltd), *Ty Mawr Development Study, Holyhead: Archaeological Evaluation* (Report 428, November 2001, for Symonds Group Ltd).

A Roman fort was constructed at Holyhead towards the end of the third century or later, as a naval base against Irish raiders.[4] A Roman coin hoard was found in the area in 1710. The coins were buried in a brass vessel, and all dated to the fourth century (PRN 2503, SH 26 81). To the north of the aluminium works, on the shore of Penrhos Beach, Stanley (1868) recorded a 'Danish fort'. The site (PRN 2509) is now under the main road, and all traces of it have been destroyed, so it is not known whether the fort was Iron Age, Roman or actually attributable to the Vikings.

4.2.3 Post-Roman and medieval

Holy Island was of considerable importance in the early Christian period, with the *clas* (monastic church) site of Caer Gybi large enough to attract the attention of the Vikings in 961.[5] The foundation of this monastic community by St. Cybi is traditionally dated to the mid sixth-century AD, and it was presumably located within the Roman fort; the present church on the site dates from the thirteenth century. There is an unusual concentration of possible and confirmed early Christian sites on the island. These include a cemetery of long-cist graves, dating to approximately the sixth to the eighth century AD, discovered during the construction of the A55 dual carriageway, to the north-west of Ty Mawr Farm. At this site the graves were located around, and cut into, the remains of a Bronze Age barrow. Another cemetery, of similar date, lies to the south-west of the study area, at Tywyn y Capel, the site of a medieval chapel on the shore of Trearddur Bay.[6] There were early Christian cist burials found at Porth Dafarch.

4.2.4 Modern period

The Modern period is characterised by the development of Holyhead as a point of departure for Ireland and by the developments of land transport links, a number of which pass near the study area, to give access to the harbour.[7]

The use of the harbour at Holyhead is already apparent in the reign of Elizabeth I, when it became the departure point for the Royal Mail to Ireland. During the Commonwealth, the town was garrisoned, and regular packet boats sailed to Ireland.

The passage of the Act of Union with Ireland in 1800-01 made Holyhead the principal port for Ireland, which in turn led to clamour from Irish MPs now obliged to sit in Westminster, about the state of the roads. The road from the Menai ferries to Holyhead had been turnpiked in 1765 and much improved,[8] but transport was still difficult until Telford built the new London to Holyhead road (the A5). The Stanley Embankment carries the road over the Afon Lasinwen, the tidal strait between Holy Island and Anglesey, replacing the ferries and fords (GAT 251). The embankment was designed by Thomas Telford, and built by Dargan, who subsequently made his name as the greatest of the railway contractors in Ireland. Work started in 1822 and it was opened in 1823, the final stage in the link between London and Holyhead.

In 1848 the Chester and Holyhead Railway was opened on an alignment which now forms the south-western boundary of the study area. The engineer was Robert Stephenson. The railway subsequently became part of the London and North Western Railway and its successors, the London Midland and Scottish and British Railways.

These developments were facilitated by the Stanley family of Penrhos, owners of most of the land within which the proposed developments falls, as well as much land elsewhere in Holyhead and in Anglesey. The Stanleys were a family of more than local consequence; Whigs, and later Liberals, in politics, members of the family served in government and in the church, though the third baron converted to Islam. The influence of one member of the family on government was less obvious but more fraught with consequence; Venetia Stanley's liaison with Asquith was crucial in determining the development of the First World War. Active 'improving' landlords, the surveys they carried out of their estate form the major source of evidence for the study area.

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[4] F. Lynch, 'The celtic Iron Age and the Roman occupation', in M. Richards, *An Atlas of Anglesey* (Llangefni, 1972), p 24.
[5] N. Edwards, 'Anglesey in the early Middle Ages: the archaeological evidence', *Transactions of the Angleey Antiquarian Society* (1986), pp. 19-42.
[6] Edwards, *op. cit.*, p. 31.
[7] D. Lloyd Hughes and D.M. Williams, *Holyhead: The Story of a Port* (privately published, 1981), *passim.*
[8] H. Ramage, *Portrait of an Island* (Llangefni, 1987), p. 38.

The landscape is currently dominated by the Anglesey Aluminium industrial complex. This was built in the late 1960s and the 125,000 tonne per annum smelter is one of the largest suppliers of aluminium in the UK. The study area is now bounded to the north by the present A5 (not the original Telford road, but a new road built to avoid the aluminium works), to the west by built-up residential and retail use, to the south by the railway, and to the west by the grounds of the new sewage treatment works.

Much of the study area has already been developed, and other parts were used for accommodation, storage and offices during the construction of the aluminium works (*ex info* Mr Glyn Morris, Treaddur Bay).

4.3 Results of the desk-top study

The Sites and Monuments Record maintained by the Gwynedd Archaeological Trust confirmed that there are no identified sites within the study area.

Documentary and map sources confirm that within the early-modern period the study area was owned in part by the Stanley family of Penrhos and in part by a number of other landowners. A map of *c.* 1769 indicates that the study area included part of Glan y Gors Bach and Tyn y Pwll.[9] The names of the fields given in a schedule to accompany the map are shown in the table below:

D1	Cae'r Fynon	Field of the well or spring
D2	Cae Rodyn	Kiln field (probably corn drying kiln)
D3	Cae Ronin	Field of the ash tree
D4	Cae ty	Field of the house
D5	Cae Llinia	Strip field (named after remnants of the open field system)
D6	Loons (?)	?
D7	Rhos	Moor or rough grazing
Z1	Cae Drws	Door field (being the field adjacent to the house)
Z2	Tyn Talcan Ty	The field facing the gable end of the house (talcen = house gable
Z3	Llain Drws	The strip of the door
Z4	Cae Ucha	Upper field
Z5	A Quillet above (Cae Ucha)	
Z6	A piece tyn y pwll	

By 1817, when the area was once again surveyed on behalf of the Stanley family, some changes are evident. Mr Jones's land is now identified as the property of Lord Newborough of Glynllifon, a Caernarvonshire-based peer with a number of lands in Anglesey. The purchase was evidently fairly recent, since the lands are not included on Newborough's own estate survey of 1815.[10] D1 of 1769 is here 100 'Cae Mawr' (*big field*), D2 of 1769 is 101 and 102 'Cae'r Gors' (*field of the moor or marsh*).

A number of small changes are evident on the Holyhead tithe map of 1840. To the west Lord Newborough's property at Glan y Gors had been enclosed, and an undated map in the Newborough collection confirms that the estate undertook the drainage of Glan y Gors at some stage in the nineteenth century.[11] The smallholdings or cottages of Llanfawr Bach, Glan y Gors Bach, Cae Engan and Bryniau Llygain are clearly marked.

By 1890 the 25" ordnance survey records significant changes in the field pattern and consolidation of holdings. Most of the cottages are now gone, and only Cae Engan and Glan y Gors (just east of the study area boundary) remain. The fields have been partly re-aligned to take account of both the railway to the south and Telford's road to the north.

The incorporation of the area into the Anglesey Aluminium estate in the late 1960s heralded a series of major changes, including the removal of Glan y Gors farm. Subsequently Cae Engan was also removed to make way for development.

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[9] Ty'n y Pwll translates as *house of the pool* or *dip*. A contemporary map also gives Tyddyn y pwll, *smallholding of the pool* or *dip* – UWB Penrhos II 772, general map.
[10] Caernarfon Record Office, XD2/8356.
[11] Caernarfon Record Office, XD2A/426.

4.5 Archaeology of the site

Considerable development has already taken place here (see fig. 1), and it is only the north-east corner that contains any undeveloped land, though this was the area used by Anglesey Aluminium for its temporary compounds during construction in the 1960's. The former A5 (Telford's London to Holyhead road) runs through this area, but, other than former field systems, no other sites are known. The original ground surface lies some 3m below the present, which has been raised and leveled by dumping large quantities of stone, clay and soil. There will be no impact on the pre-1970's ground surface should development take place on top of this, without digging through it.

The former farms and cottages of Cae Engan, Ty'n y Pwll and Llanfawr Bach and their associated field systems have been so effectively removed by existing development, that it is very unlikely any relict archaeological remains exist.

4.6 Site gazetteer

PRN 19676
SH 2587 8145 A

Feature 1 ***Telford's London to Holyhead Road***
Category B
Direct impact: Significant
Indirect impact: Not relevant
The former line of the road is visible to the south, outside the area, but because of the large amount of dumping that has take place, the road now lies some 3m below the present surface of the proposed development area. There remains good potential for the recovery of details of the construction of the A5, and thus to examine Telford's design of this section of the road, should construction excavations go sufficiently deep.
Recommendations for further assessment: None
Recommendations for mitigatory measures: *Detailed recording and excavation if appropriate*

5 BIBLIOGRAPHY

5.1 Archival sources

5.1.1 Llangefni Record Office

Anglesey county series 25" ordnance survey XI.7 (1890, 1900, 1924)
Tithe map of Holyhead, 1840

5.1.2 Caernarfon Record Office

XD2A/426	Drainage scheme at Glan y Gors
XD2/8356	Newborough estate survey, 1815
LNWRplan1	Plan of parts of the Chester and Holyhead Railway main line, 1846
LNWRplan8a	Plan of parts of the Chester and Holyhead Railway main line, 1843

5.1.3 University of Wales, Bangor, dept of mss

Penrhos II 772	Survey of Penrhos estate, 1769 – map 5 shows Ty'n y Pwll
Penrhos II 775	Map and schedule of Penrhos estate, 1769
Penrhos II 803	Schedule of Penrhos estate, 1817
Penrhos II B804	Map of Penrhos estate, 1817

5.2 Unpublished Sources

Aerial photographs held by the Countryside Council for Wales
Gwynedd Archaeological Trust (J. Kenney), *Land at Ty Mawr, Holyhead: Archaeological Assessment* (report 389, for Symonds Group Ltd, revised June-September 2001).
Gwynedd Archaeological Trust, *Ty Mawr Development Study, Holyhead: Archaeological Evaluation* (report 428, for Symonds Group Ltd, November 2001).

5.3 Published Sources

5.3.1 Ordnance Survey maps:

2" manuscript for proposed edition, 1819
1" first edition, 1839-41

5.3.2 Monographs

Edwards, N: 'Anglesey in the early Middle Ages: the archaeological evidence', *Transactions of the Angleey Antiquarian Society* (1986), pp. 19-42.
Lloyd Hughes, D and Williams, D M: *Holyhead: The Story of a Port* (privately published, 1981)
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- *Prehistoric Anglesey; the Archaeology of the Island to the Roman Conquest* (Llangefni, 1991)

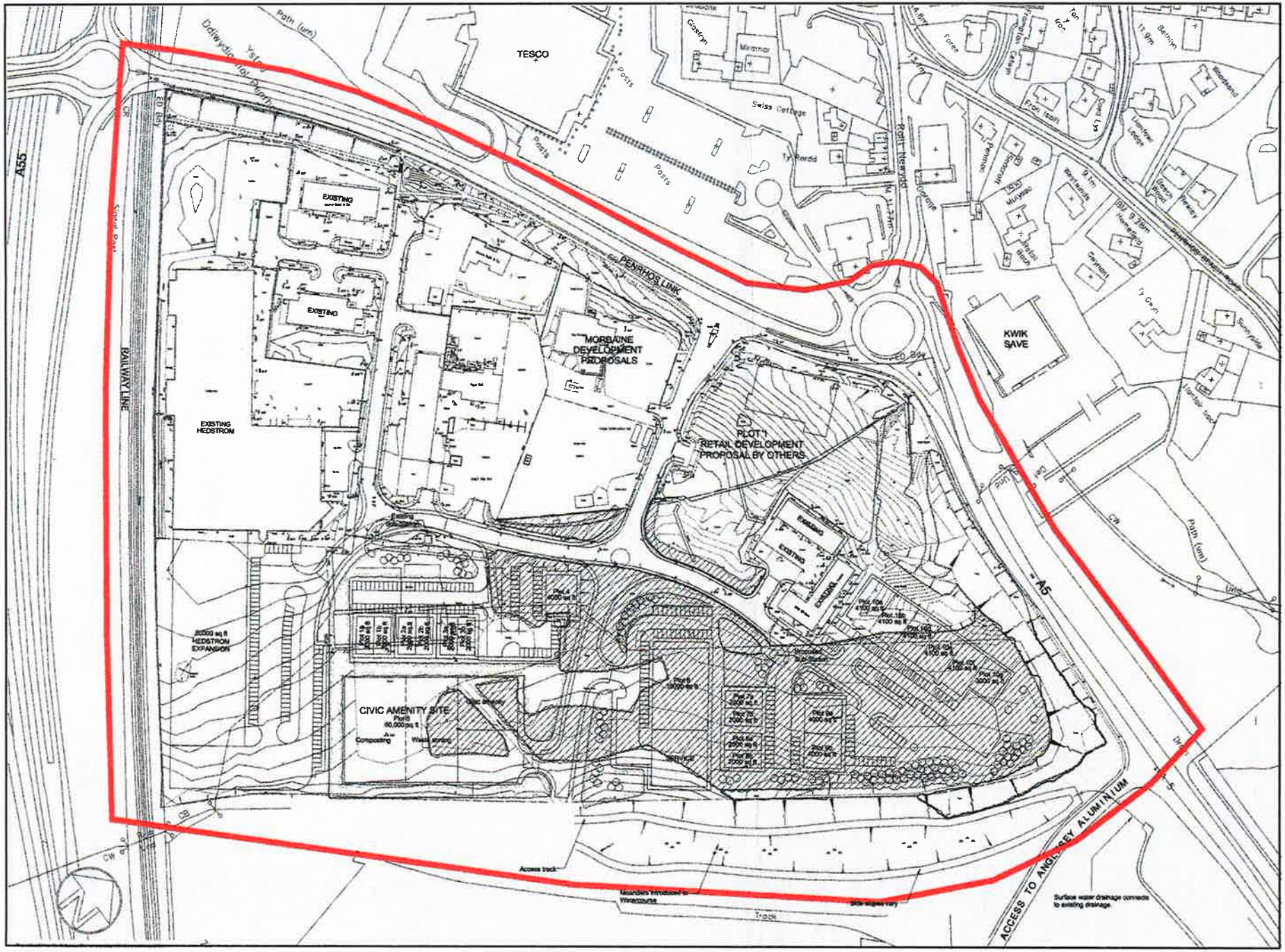

Figure 1. Location plan of Penrhos industrial Estate Development. (1:1250) (Capita Symonds 62170/SP/01. Revision A July 2004.

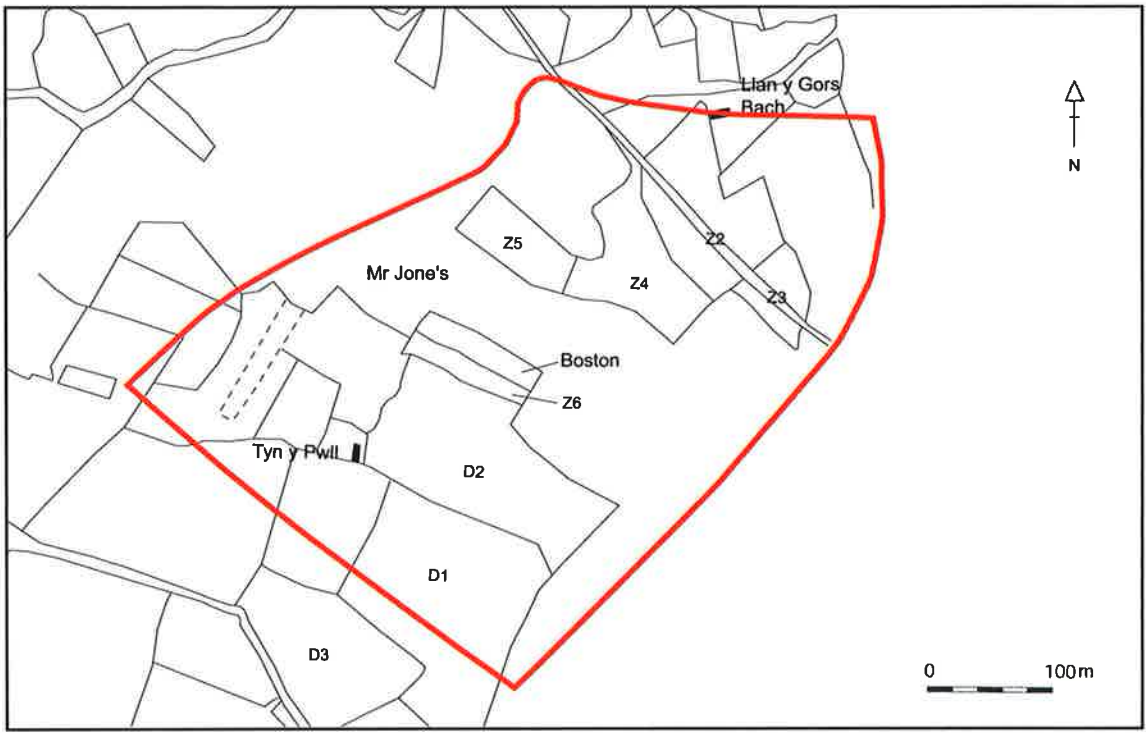

Figure 2. Extract from 1769 Estate Survey. (UWB, Penrhos II, 772)

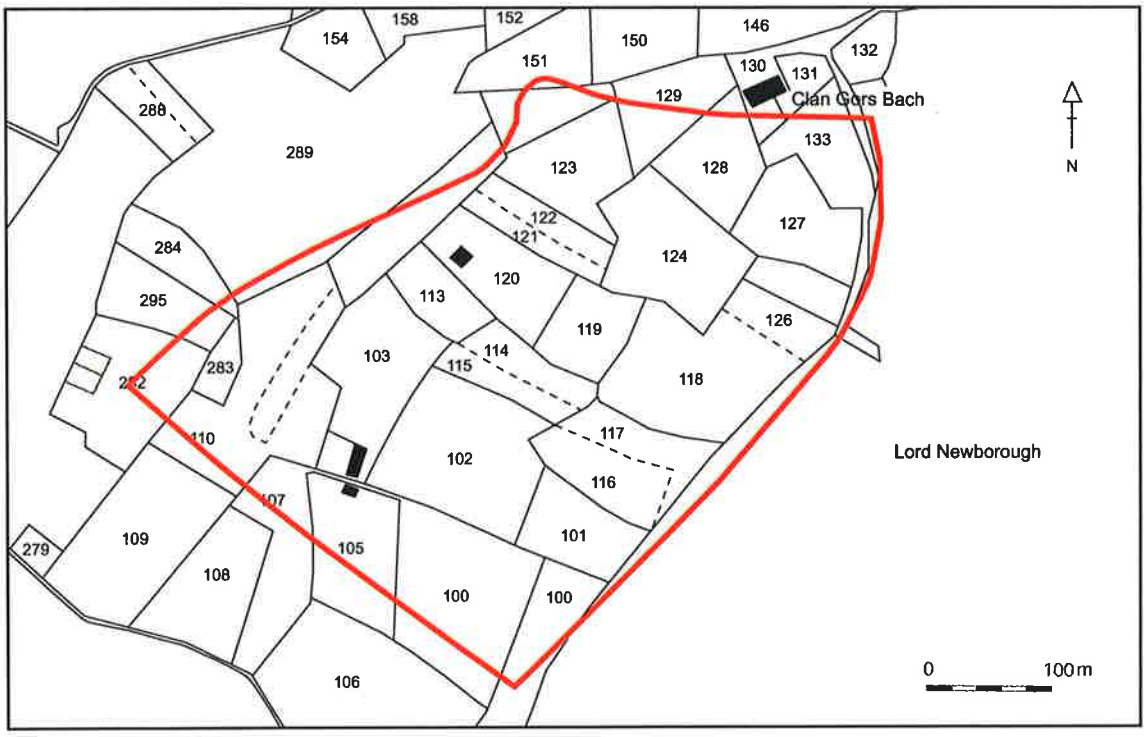

Figure 3. Extract from 1817 Estate Survey. (UWB, Penrhos II, 804)

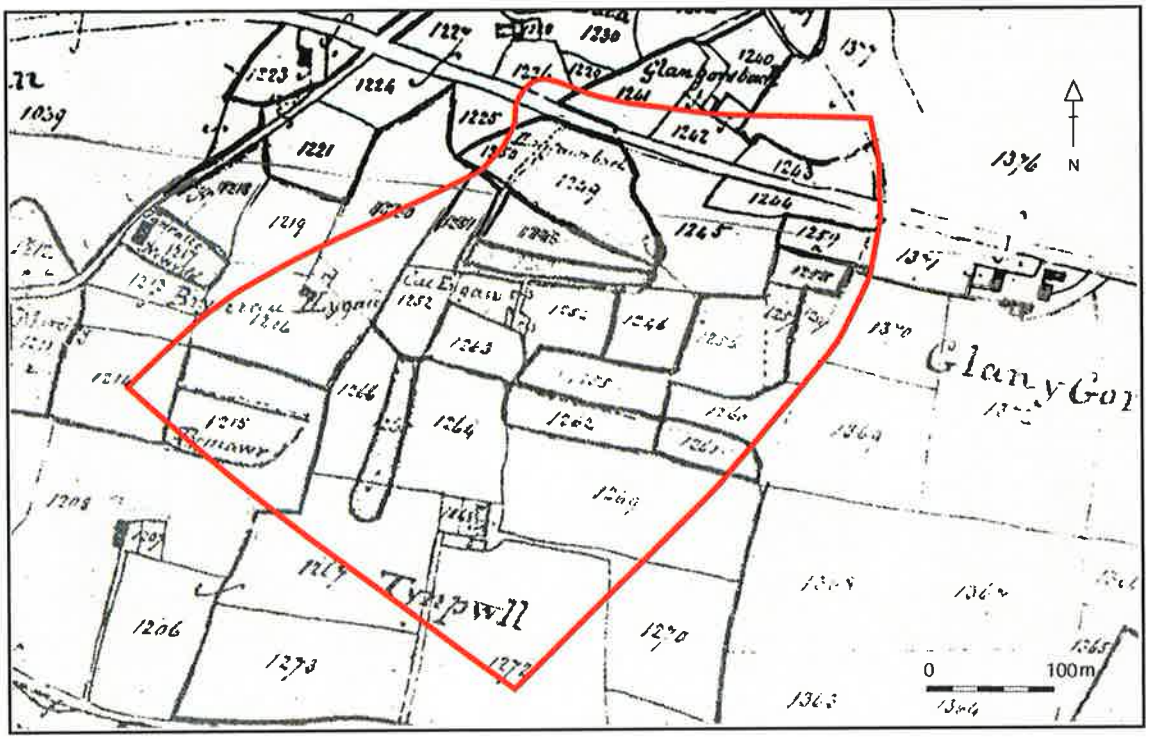

Figure 4. Extract from the Tithe Survey of Holyhead. 1840

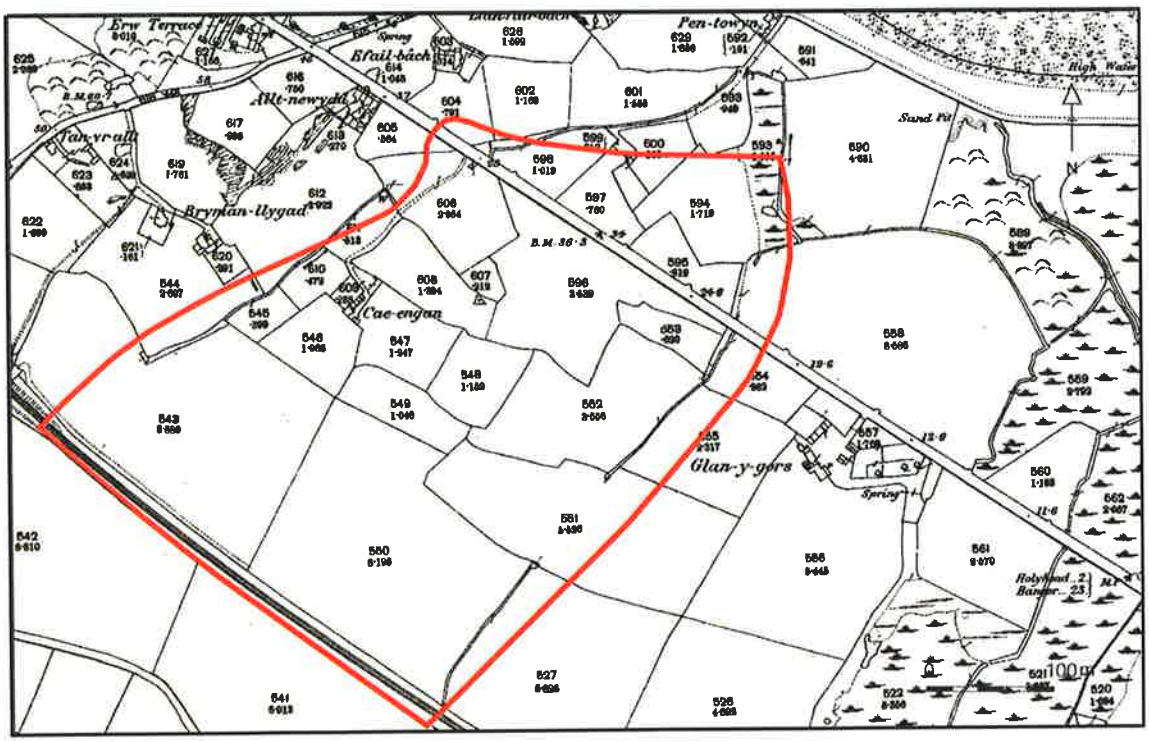

Figure 5. Ordnance Survey 25" Anglesey XI.7. 1890

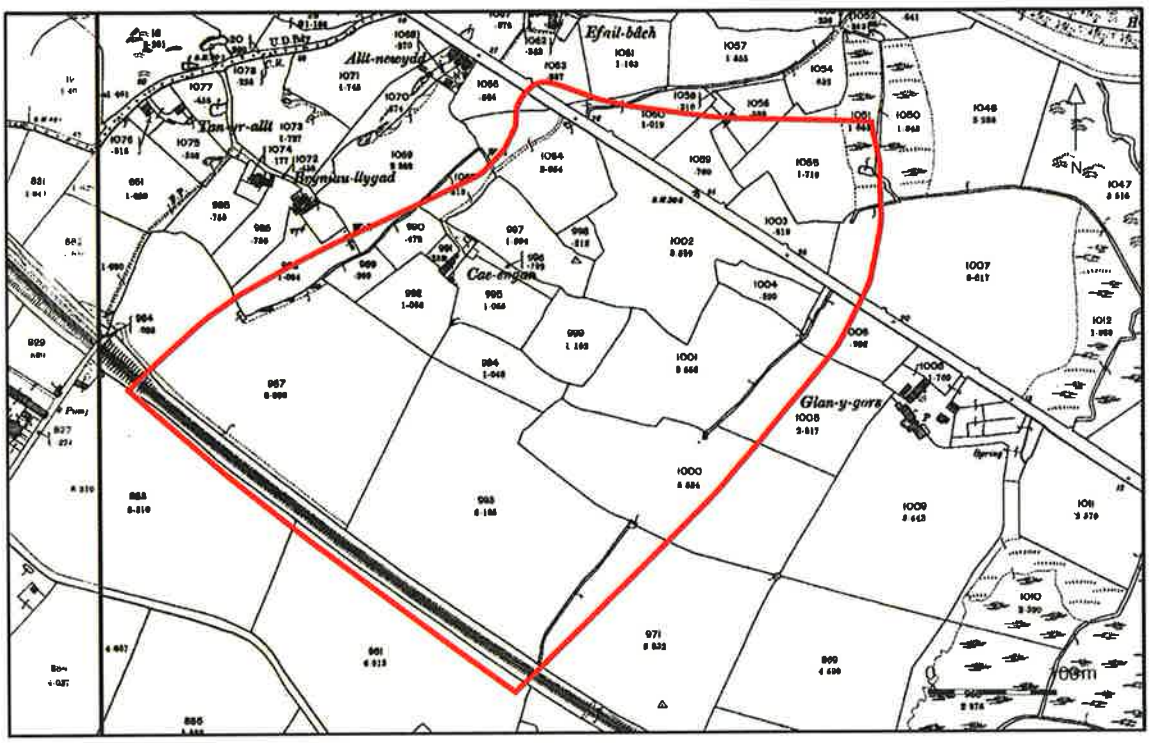

Figure 6. Ordnance Survey 25" Anglesey XI.7. 1900

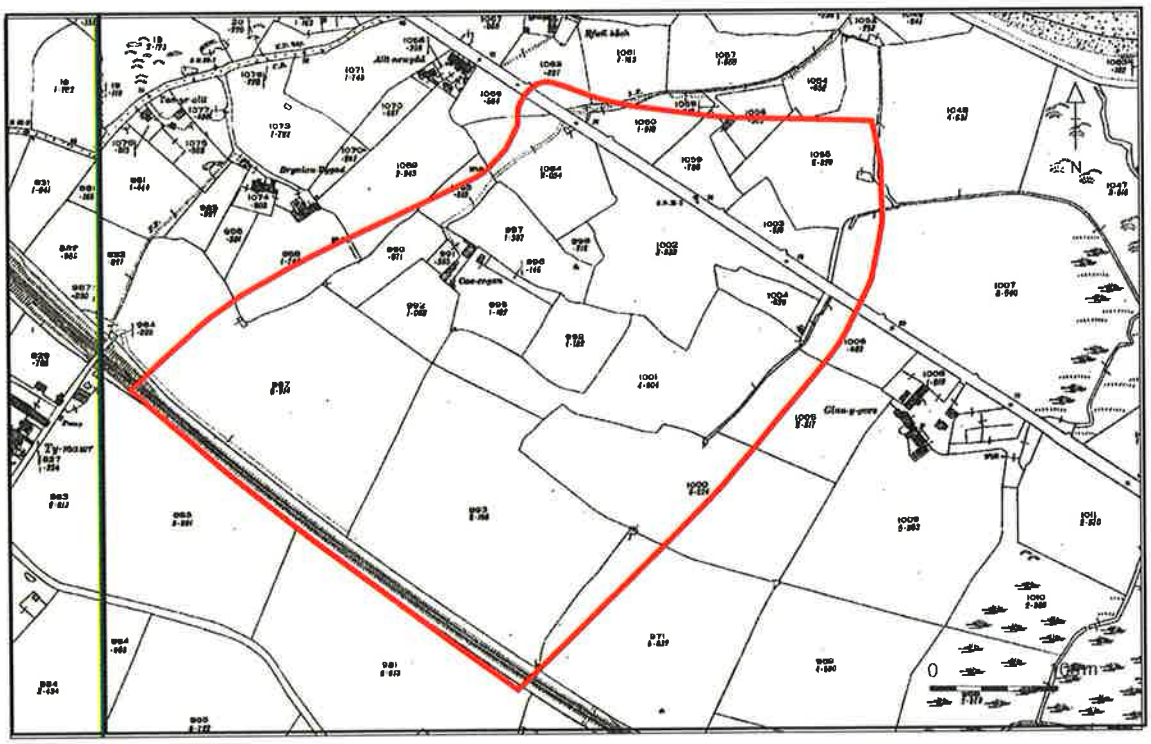

Figure 7. Ordnance Survey 25" Anglesey XI.7. 1924