

---

# Eithinfynydd Water Treatment Works: **Tal-y- Bont, Gwynedd**

---



## Archaeological Assessment

GAT Project No. 2099

Report No. 831

November, 2009



---

# Eithinfynydd Water Treatment Works: **Tal-y- Bont, Gwynedd**

---

Report No. 831

Prepared for  
Caulmert Ltd.

November 2009

By  
Tanya Berks  
&  
Robert Evans



---

# Eithinfynydd Water Treatment Works: **Tal-y- Bont, Gwynedd**

---

<b>Contents</b>	<b>page</b>
<b>1. Introduction</b>	<b>1</b>
<b>2. Design Brief and Specification</b>	<b>1</b>
<b>3. Methods and Techniques</b>	<b>2</b>
<b>4. Archaeological Results</b>	<b>2</b>
<b>5. Summary of Archaeological Potential</b>	<b>11</b>
<b>6. Summary of Recommendations</b>	<b>12</b>
<b>7. Conclusion</b>	<b>12</b>
<b>8. Archive</b>	<b>13</b>
<b>9. References and other sources consulted</b>	<b>13</b>



---

# Eithinfynydd Water Treatment Works: Tal-y- Bont, Gwynedd

---

<b>Figures</b>	<b>page</b>
1. Study Area Location	20
2. Location of archaeological features and proposed development	21
3. Location of proposed evaluation trenches	22
4. Corys-y-Gedol Estate Map c. 1770	23
5. A plan of Brynodol and Llanfair estates 1800	24
6. Tithe Map of the parish of Llanddwywe 1840	25
7. First edition 25" Merioneth Ordnance Survey map of 1889	26
8. Second edition 25" Merioneth Ordnance Survey map of 1900	27
9. Aerial photograph RAF vetical. CPE/UK 1939 F20 Frame 4026 Taken 19th January 1947	28
10. Aerial photograph OS survey vetical. ZEIS 054 71-234 Frame 225 Taken 21st May 1971	29

## **Plates**

1. Feature 2. Possible prehistoric cairn, field clearance or construction activity from the first phase of works. View taken from the north-west	30
2. Feature 3. Possible remains of a rectangular building. View taken from the south-east	30
3. Feature 5. Possible wall. View taken from the south-east	31
4. Feature 6. Remains of a rectangular building, possible medieval long house or field barn View taken from the south-west	31
5. Feature 10. Possible medieval enclosure, platform and long hut. View taken from the south-west.	32
6. Feature 14. Possible enclosure. View taken from the north-east	32
7. Feature 8. Relict feild wall. View taken from the south-west	33
8. Feature 15. Possible Bronze Age cairn. View taken from the East	33



# EITHINFYNYDD WATER TREATMENT WORKS (G2099)

## ARCHAEOLOGICAL ASSESSMENT

### SUMMARY

*An archaeological assessment has been undertaken on land to the north of Eithinfynydd in advance of a proposed extension to the existing Water Treatment Works. The study area consists of 2.2ha of land on the north side of the existing works. The proposed development area occupies a small part of the south-east corner of the study area. The latter is divided into four relict fields and was formerly known as Cae Erwerth. Twelve archaeological sites are noted on the Gwynedd HER within 250m of the study area. One Scheduled Ancient Monument, the Eithinfynydd Platform House (SAM Me202) lies adjacent to the west side of the study area. The site was initially noted to be about 70% covered in bracken, which was cleared and an archaeological topographic survey undertaken. An additional thirteen potential sites were identified through fieldwork and through examination of aerial photographs and archive sources. These may range from prehistoric to post-medieval in date.*

*There is potential for direct impact upon archaeology within the proposed development area, though the full nature and extent of the archaeology cannot be assessed without further evaluation. It is therefore recommended that trial trenching be undertaken within the development area prior to the start of development.*

### 1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by Caulmert Ltd on behalf of their clients Dwr Cymru Welsh Water to carry out an archaeological assessment in advance of the construction of an extension to the Water Treatment Works at Eithinfynydd. The works are sited at NGR SH 6020 2170 close to Tal y Bont, Gwynedd. The proposed extension (referred to subsequently as the proposed development area) is detailed on Black and Veatch drawing number 165517-00-3003, and noted on Figure. 2. The assessment examined a wider area (the study area) also shown on figure 2 in order to allow the findings of the assessment to be put into an appropriate context, and to allow areas to be assessed for compound use if required.

### 2 DESIGN BRIEF AND SPECIFICATION

A detailed brief has not been prepared for this scheme, however an archaeological assessment was required by the Snowdonia National Park Authority (SNPA). A specification for the assessment was submitted to the SNPA by GAT. This report conforms to that specification, and to the guidelines specified in *Standard and Guidance for Archaeological Desk-based Assessment* (Institute of Field Archaeologists, 1994, rev. 2001).

A desk-based assessment is defined as 'a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate'. (*Standard and Guidance for Archaeological Desk-based Assessment*, IFA 2001, 2).

The aims of the assessment as given in the specification are:

- to identify and record the cultural heritage within the defined study area;
- to evaluate the importance of what has been identified;
- to recommend ways in which impact upon the cultural heritage can be avoided or minimised.

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

- Desktop study
- Field walkover
- Initial report
- Field evaluation
- Draft report
- Final report

The phase of the project concerns the first three phases only, and recommendations will be made for any field evaluation required.

### **3 METHODS AND TECHNIQUES**

#### **3.1 Desk top study**

The desktop study comprised the consultation of maps, documents, computer records, written records and reference works, which form part of the Historic Environment Record (HER), located at Gwynedd Archaeological Trust (GAT), Bangor. The archives held by the Meirionnydd Record Office, Dolgellau and Bangor University were also consulted. Information about listed buildings was consulted by means of the CARN (Core Archaeological Index), which is the online index of the Royal Commission on Ancient and Historic Monuments, Wales. Relevant aerial photographs from the collection at RCAHM, Wales were examined. Two previous assessment reports examining routes of proposed pipelines in the vicinity were consulted (Gwyn 1996, Hopewell 2003, Davidson *et. al* 2005). Kelly (1982) was also consulted as it forms an in depth study of the wider area in which the development area is situated.

Sites, buildings and find spots listed in the GAT HER were identified (Fig. 1) within 250m of the study area.

#### **3.2 Field Search**

The field search was undertaken on the 28<sup>th</sup> September 2009, when the area of the proposed development was examined. Notes were taken, sketches and measurements were taken of sites of potential archaeological interest and a photographic record was made. The extensive bracken cover, up to 70% of the assessment area, meant that it was difficult to study the area in detail. Therefore a further field search and archaeological topographic survey was carried out on 9<sup>th</sup> November, after bracken clearance had taken place.

#### **3.3 Report**

The available information was synthesised to give a summary of the archaeological and historic background and of the assessment and recommendations, as set out below. The separate features, their evaluation and recommendations are listed separately, and a summary of the overall assessment of the area is given at the end.

The criteria used for assessing the value of features was based upon those used by the Secretary of State for Wales when considering sites for protection as scheduled ancient monuments, as set out in the Welsh Office circular 60/96. The definitions of categories used for impact, field evaluation and mitigation are set out in Appendix I below.

### **4 ARCHAEOLOGICAL RESULTS**

#### **4.1 Topographic description**

Eithinfynydd stands on the edge of the Precambrian rocky massif of the Harlech Dome. The Harlech Dome is bounded by the Dwyryd and the Mawddach estuaries to the north and south and by the alluvial and sandy plain of the Ardudwy coastlands to the west, and the Trawsfynydd depression on

the east. The rock is formed by anticline rocks of Cambrian age. In between the massive grits with shaly partings, tough mudstones and Menevian and Lingula flags of the middle Cambrian Age give way to high, rugged, heavily glaciated mountains, the highest of which is Y Rhinog Fawr [720m] (Bowen and Gresham 1967, 1; Smith and George 1961, 16-20). The site itself is located at a height of about 250m OD upon boulder clay and undifferentiated drift overlying coarse grained greywacke of the Rhinog Formation of the Cambrian Harlech Grits Group (BGS 1982). Soils consist of brown earths of the Rivington 2 Association with boulder clay and exposed undifferentiated drift, which is probably quite shallow. The soil is classified as Grade 5 by MAFF (Soil Map of England and Wales).

The farmland at Eithinfynydd is now rough pasture, within which there are cushions of gorse, and bracken and scrub are prevalent.

The site is located to the south of Afon Ysgethin, on the summer pastures where possible medieval summer dwellings (*hafodydd*) are located above the individual farms (hendre) and low lying coastal Morfa below. The lower hill pastures above Eithinfynydd, or *ffriddoedd*, are in turn below the open mountain slopes, and were probably enclosed out of common land in the 16<sup>th</sup> century (Hooke 1975, Thomas 2007).

## **4.2 Archaeological and historical background**

A total of 12 sites are recorded in the Gwynedd Sites and Monuments Record within 250m of the study area (Appendix 2). A Scheduled Ancient Monument, Eithin Fynydd Platform House (Me 202) lies directly to the west of the study area, and two well preserved prehistoric enclosures lie a short distance further west.

A number of surveys of the surrounding area of Ardudwy have been carried out, including an archaeological survey was carried out for the National Trust in 2003 on their land at Egryn Abbey (Muckle Partnership 2003), just to the south of the current study area, when 83 sites were identified, ranging in date from neolithic to early modern times. Hooke (1975), De Lewandowicz (1981), Kelly (1982) and Thomas (2007) have studied and carried out fieldwork in Ardudwy, including close to the proposed development area at Eithinfynydd. The Ardudwy Landscapes Project, carried out close to the proposed development area by Dr. Bob Johnston and John Griffith Roberts under the auspices of the University of Bangor since 2001, has aimed to assess late prehistoric archaeological deposits and palaeo-environmental sediments (Johnston and Roberts 2009).

### **4.2.1. Earlier Prehistoric**

Substantial evidence for Neolithic and Bronze Age activity is found in the areas to the north and west of Eithinfynydd. These include the complex Portal Dolmen at Dyffryn Ardudwy (Powell 1973, 1-49), which is one of at least six chambered long cairns that make up the Ardudwy group (Bowen and Gresham 1967, 7-24). All of them consist of cairns that are orientated with their long axes approximately east west, covering one or more megalithic chambers. The two closest examples to Eithinfynydd are at Corsygedol (SH 60332283, PRN 1083) and the two cairns at Carneddau Hengwm (SH 61322053 and 61322057). The Corsygedol cairn is situated at about 190m OD, and is about 30m long and 15m wide. The long cairns at Carneddau Hengwm are of unequal size, with the southern one twice as large as the northern one, about 40m long and 15m wide (*ibid.* 12). Some evidence for Neolithic activity, in the form of pits containing fire-cracked stones, was found at Moel y Gerddi (Kelly 1988, 107).

Two hut circles, of probable Bronze Age date (SH 61632135 and 61642129, PRNs 1087 and 1088) are located at Hengwm, about 800m north of the chambered cairns. These were excavated by O.G.S. Crawford in 1919 (Crawford 1920, 102-112). A number of round cairns are located in this vicinity, some also excavated by Crawford (Bowen and Gresham 1967, 89-91). A ring cairn at Hengwm was excavated as part of the Ardudwy Early Landscapes Project (Johnston and Roberts 2009).

Two Bronze-Age standing stones (PRN 1059<sup>1</sup>) stand on the banks of the Afon Artro just to the North of Llanbedr. Other Bronze Age activity is reflected by a scatter of finds, some of high status, within the general area (Bowen and Gresham 1967, 121-129). Most do not have accurate findspots so their context is lost. The most spectacular is a gold torque (PRN 2896) dug up in a garden somewhere near Harlech Castle. It is now in the National Museum of Wales.

Excavation on the slopes of Moel Goedog (SH 610324) of two ring cairns revealed a number of cremation burials and other pits of probable ritual significance (Lynch 1984, 8-50). It was suggested that they were part of a number of monuments situated away from areas of settlement and visible from the lower lands to the west (*ibid.*, 34), and that the slopes of the rocky shelf above Harlech formed part of a ritual landscape.

#### **4.2.2 Late Prehistoric / Romano-British**

The high level of survival of settlement patterns on the Ardudwy Uplands is one of the defining characteristics of the landscape of Outstanding Historic Interest. These sites probably have their origins in the later Bronze Age and continue through to Early Medieval times, and clear period definition is often very difficult. An extensive system of huts, enclosures and fields stands at Muriau Gwyddelod (PRN 1054-56). The system includes many Iron Age features along with signs of medieval settlement. Further settlement to the west of this (PRN 1051) at Groes Las is less well preserved but also appears to be Iron Age. A possible late prehistoric hut circle has been noted to the west of Eithinfynydd (PRN 6683).

Excavations at Moel-y-Gerddi and Erw-Wen near Harlech revealed evidence of enclosed round house settlement dating to the first millennium BC, with further activity at Erw Wen in the Medieval period (Kelly 1988, 138-140). It is likely that many of the settlements continue in use into the early medieval period. Later medieval re-use is recorded at Erw Wen, when the roundhouse was probably reused as an animal pen and a rectangular platform house was constructed (*ibid.*, 128). During the first millennium BC the settlements are commonly enclosed but there is a tendency for more of them to become open settlements later in the period (Ghey *et al.* 2007). A later prehistoric hut circle settlement was partially excavated by the Ardudwy Early Landscapes Project at Hengwm between 2001 and 2004, revealed evidence of later re-use of the site (Johnston and Roberts 2009, Area B).

A significant amount of evidence for settlement in the late prehistoric and Roman period survives close to the development area. At Eithinfynydd (PRN 1071) a defended settlement has been recorded about 100m west of the farm house. This consists of a defensive stone wall enclosing an oval area of about 40m by 30m. On the west side, where the ground falls steeply away down the hill, the defences appear less substantial than on the east, where the wall is up to 3 metres wide at the base. Another hill-fort is located at Craig y Dinas to the south (SH 62432300, PRN 1107), where a wall 2.8m thick encloses the summit of a rocky knoll (Bowen and Gresham 1967, 156-160).

A homestead at Tyddyn y Felin (PRN 1078) and one at Eithinfynydd (PRN 841) have been noted, which are probably Romano-British in date. These may be similar to a Romano-British oval hut recently excavated at Rhiwgoch (Evans, *forthcoming*)

There is no clear evidence of Roman military occupation along the Ardudwy coastal plain. Hopewell (2007) suggests that a Roman road, running between Harlech and Porthmadog ran north south 4.4km east of Eithinfynydd (Hopewell 2007, Map 90).

#### **4.2.3 Medieval**

The earliest reference to the parish church of Llanddwywe (SH 586223, PRN 6955), the historic parish in which the proposed development is situated, occurs in the lay subsidy roll of 1292-3, however the circularity of the original graveyard hints at an early medieval foundation for the site (Davidson 2001, 347). Most of the fabric of the building was rebuilt by the Vaughans of Cors-y-Gedol, in the late 16<sup>th</sup> and early 17<sup>th</sup> centuries.

---

<sup>1</sup> PRN refers to the individual Primary Reference Number given to each recorded site on the Gwynedd Historic Environment Record (HER).

Egryn (NGR SH592203, PRN 12,355) is an example of a stone-built late-medieval three unit hall house, with a central two-bay hall flanked by two inner rooms at the dais end, a cross-passage and formerly outer rooms beyond. The hall bays are divided by a cusped collar-beam truss, which lies closer to the passage end, and a small louvre truss on the dais side of it indicating use of an open fire. An aisle truss separates the hall from the cross-passage, and a post and panel partition separates the dais end from the inner rooms beyond. A floor was inserted into the hall to create two storeys in the early 17<sup>th</sup> century, when a lateral fireplace was also added. An extension was added to the east end at an unknown date, but possibly 18<sup>th</sup> century. In the 19<sup>th</sup> century the west outer wing was taken down and a parlour wing built in its place.

There is considerable evidence for medieval settlement upon the upland slopes of Ardudwy (Gresham 1954, 18-53), and its history and location have been well studied (Hooke 1975, 221-230). The structures consist of a variety of shapes and sizes, but in most cases they comprise a rectangular structure lying alongside or within a series of small enclosures or paddocks. The rectangular structure is usually aligned down the slope, with a protective hood, or bank, around the upper end. Because they are often built on terraced platforms they are sometimes referred to as 'platform houses', whilst their rectangular shape also means they are often called 'long houses', though this does not necessarily mean they contained humans and animals living under the same roof. A platform house and settlement located immediately west of the study area is Scheduled as a Monument of national importance (Me 202, PRNs 5069, 15653). The site is an extensive settlement with evidence for at least three rectangular houses within an enclosure, with well-preserved wall facing and the remains of a drainage hood (GAT 1999, 12-13). There is an enclosure, possibly associated with this group, to the east of the scheduled area within the south-west corner of the study area (Figure.2). Eighteen platform houses were identified on the National Trust Survey of Egryn in 2003 (Muckle Partnership 2003). It is not always easy however to differentiate these from more modern sheepfolds and paddocks (Kelly 1982, 158).

A possible site of this type has recently been identified at Rhiwgoch (PRN 20612) and with a possible attached paddock, to those identified by Kelly (1982) and Bowen and Gresham (1967) in the Ardudwy area (eg. PRN 1182). Such sites are considered by Kelly to represent a *hafod* or summer upland dwelling related to the more permanent *hendre* located on lower ground. Another possible site of this type have been identified near to Eithinfynydd (PRN 5857), and a robbed out example 250m north of the proposed development area (PRN 2939). Feature 3 located within the current study area may be another site of this type.

The survival of these types of settlement sites seems generally to be seen between 150m and 200m OD (Hooke 1975, 225), although the absence of such sites on lower ground is likely to be a matter of lack of survival and subsequent development along the coastal plains, where the *hendre* is likely to be located. To the west of Eithinfynydd the field name *Caer Fotty* on the tithe map, meaning 'Field of the Hafod' further suggests that the rectangular structures that have been identified in the area are *hafodydd* (Hooke 1975, 228 and map 5C). De Lewandowicz (1981) suggests that clearance around these sites additionally suggests small scale arable agriculture (*ibid.*, 40).

Evidence for possible medieval agricultural activity, in the form of lynchets (terraced strip fields) has been noted close to Eithinfynydd (PRN 6677).

#### **4.2.4 Post-Medieval**

Pressure on the land is revealed by 16<sup>th</sup> century encroachment on to the common lands in the area. These were usually to be found on the fringes of the open hillside commons. This included 78 acres within the parishes of Llanddwywe and Llanaber (*ibid.*, 227). Settlement appears generally to coalesce around the current farmsteads at this time, and downward expansion on to the coastal marshland is also apparent. The nearby farmhouses, Eithin Fynydd, Cae Tanni Llecheiddor Uchaf and Isaf, and Llwyngwyn can be seen to be in existence by the time of the Cors-y-Gedol survey of about 1770, and probably have their origins in early post-medieval times, although the surviving buildings themselves are later in date.

Authorised enclosure was also a feature of Ardudwy in Tudor times, and it has been suggested that it 'did not proceed from either a need or a desire to create independent farms, but was rather the visible product of an internal struggle for wealth and power between already well-established

landowners' (Thomas 2007, 136). However this creation of independent farms was the main outcome of the enclosures carried out at this time, and the parochial and community orientated life broke down in favour of farms owned by the large centralised estates of gentry families, such as Cors-y-Gedol.

The Merioneth gentry were staunchly royalist in the civil war, amongst whom were the Vaughans of Cors-y-Gedol, the main local landowner around the development area. The house a Grade II\* listed building (PRN 12,331, LB II\* 4079), lies 1.4km north of Eithinfynydd. The earliest part of the surviving structure dates from 1576 and incorporates a lateral fireplace heating the hall. The house was much added to in the 17<sup>th</sup> century and a gatehouse was built in 1630 (LB II\*, PRN 12,332) and a barn in 1685 (Smith 2001, 453-454). Many of the associated estate structures are listed buildings.

A post-medieval building within an enclosure has been noted 400m east south east of the development area (PRN 6676).

#### 4.2.5 Early-Modern/Modern

An estate map of land owned by the Mostyn family, though previously belonging to the Vaughans of Cors y Gedol, and dated to about 1770 shows all the fields surrounding the study area (Figure. 4, UWB Archives, Mostyn MSS S8678). The study area itself is described as *Mr Griffith of Brynodynol's Land*, a Caernarfonshire estate which had obtained the holdings of the Taltyddyn estate in the county of Merioneth. The Cors y Gedol survey shows a single plot of land completely surrounded by Cors y Gedol land, and indicates it was then rough pasture. The area to the north is shown as a mixture of semi-improved and unimproved pasture; however some arable agriculture appears to be taking place to the north and also west (field E9). The location of the current Water Treatment Works (field E11) is shown as rough pasture, and to be part of Cae Tanni farm. The map shows that there has been a significant survival of field boundaries from the third quarter of the 18<sup>th</sup> century to the present day in the area, although some of the field boundaries associated with the smaller arable fields to the north appear to have been lost. The platform upon which the medieval house (feature 12, SAM Me 202) is situated is shown on this map in field E10, along with an adjacent structure, probably also associated with the monument. A structure is also noted in field E9, which may be a field barn (feature 11). The Brynodynol and Llanfair estate map of about 1800 (NLW, Vol 94/9/2, Fig. 5) also shows the study area as a single field (Field 28), called *Cae Erwerth*, and noted that the trackway (site 17, 29 on estate map) is associated with it.

The tithe schedules for the parish of Llanddwywe (National Library of Wales), show that the pattern of field boundaries in the area noted then have remained relatively unaltered to the present day. However the relict field boundaries which divide the study area are shown for the first time on this map (Figure. 6; fields 464-468). The fields were part of Llwyngriffu farm and they are described on the tithe schedule as below, along with adjacent fields belonging mainly to the Mostyn Estate.

LANDOWNER	OCCUPIER	No. on Plan	Name of Land and Premesis	State of Cultivation	Quantities in Statute Measure
			<b>Llwyngriffu</b>		
John Griffith Griffith	Elizabeth Jones	464 C	ae'r Erwerth (part of)	Arable 1-2-1	6
		465	Cae'r Erwerth (part of)	Meadow 1	-0-16
		466	Cae'r Erwerth (part of)	Meadow 1	-2-32
		467	Cae'r Erwerth (part of)	Arable 1-2-2	9
		468	Gardau &c	Garden	0-1-16
			<b>Llecheiddior Isaf</b>		
The Honourable Edward Mostyn, Lord Mostyn	William Evans	462 P	art of Llwyn ar Bwch	Arable 2-3-3	
		463	Cae maen isaf	Arable	2-2-37
			<b>Cae Tanni</b>		

	Morris Jones	445	Bryn rhydd		7-3-20
		446	Allotment	Meadow	0-0-22
		447	Cae Llwyellyn		3-2-4
		476	Llwyn y Bwch (part of)	Pasture 8-3-1	1
		469	Cae ty Arthio		3-3-17
		470	Cae Canol		2-0-27
		470a	Cae Canol (part of)	1-2-3	7
			<b><i>Tyddyn y Felin</i></b>		
John Griffith Griffith	Richard Roberts	448 C	ae uchaf	Pasture	2-2-30

The fact that the fields forming the study area are all described as *Cae'r Erwerth (part of)* suggests that they formerly were part of a single field, as shown on the c. 1770 Cors y Gedol estate map, and the c.1800 Llanfair and Brynodol estate map, and that the sub-divisions are therefore early 19<sup>th</sup> century in date.

The Cors y Gedol lands, including a significant amount of land to the east of the study area, was obtained by Lord Mostyn in 1831, making him the major landowner in the area. Much of the land in the area was sold to the Corbett family in 1858 (Mostyn MSS S8628). Cae Tanni farm formed lot 59 of the 1858 sale, and included all the area surrounding the development area and the site of the current water treatment works, though not the study area.

The Ordnance Survey 1<sup>st</sup> edition 25 inch map of 1889 (Figure. 7) shows the medieval house platform (feature 12), and possible field barn (feature 11). The field boundaries seem generally unaltered from the tithe map of 1840 (Figure. 6). A trackway runs from west to east across the site of the current water treatment works, with a fork north towards Llecheiddor Uchaf, to the south and east of the assessment area (Figure. 7). By the time of the 2<sup>nd</sup> edition 25 inch Ordnance Survey map in 1900 (Figure. 8) this trackway has gone, when a reservoir had been built to the south of the assessment area by Barmouth Urban District Council Water Works (field 469 figure. 6, E11 figure. 4), the forerunner of over a century of works relating to public water supply on the site.

Works carried out on the Water Treatment Works site in the 1980s resulted in a compound area being placed on the west side of the study area, and an access road across the middle of it (Fig. 2). This has resulted in some possible loss to the archaeology (see fig's 9 and 10).

### 4.3 Statutory and non-statutory designations

The development area lies within the Snowdonia National Park and the Arduwy Landscape of Outstanding Historic Interest (HLW (Gw) 2), where it is described as 'a large, exceptionally rich and well-studied landscape, situated on the western flanks of the Rhiniog Mountains, containing extensive relict evidence of recurrent land use and settlement from prehistoric to recent times' (Cadw 1998, 76). A Scheduled Ancient Monument, the Eithinfynydd Platform House (Me 202) lies adjacent to the site to the west.

### 4.4 The Archaeological Survey (Figure. 2)

The features identified within the survey include all those which lie within the study area and immediately adjacent. Two features were identified directly within or contiguous with the proposed development area, (features 3 and 4) as defined by the outline shown on Figure. 2. These are initially described listed below with recommendations for further assessment and mitigation measures, where appropriate. The recommendations reflect the information currently provided by Dwr Cymru Welsh Water, and assume impact only within the defined proposed development area (as outlined on figure. 2). Any change to the boundary of the proposed development area will require the recommendations below to be changed also. This is also the case for the route of the access track.

**Feature 1      Stone cairns**

SH 6016 2178

*Period: Prehistoric*

*Category: E   Impact: None*

Two cairns of boulders and smaller loose stone about 2.8 x 4.5m and 1.8 x 2.3m in diameter. The feature is visible on the aerial photographs (CPE/UK 1939 and ZEIS 054 71-234 1971), where it appears to extend further to the west than at present. The appearance of the cairn suggests it is the result of relatively modern clearance, though it may contain remains of an earlier cairn or structure within it.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

**Feature 2      Stone cairn (Plate 1)**

SH6016 2174

*Period: Prehistoric*

*Category: E   Impact: None*

A mound of boulders and smaller loose stone, covering an area of about 5.5 x 3.8m. This may represent field clearance and later agricultural activity, or even construction activity from the first phase of works. However, some burnt stones are present, and therefore it may be, at least in part, a prehistoric burnt mound.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

**Feature 3      Rectangular Feature (Plate 2)**

SH 60172172

*Period: Unknown, possibly medieval*

*Category: E   Impact: Possibly Considerable*

A low stone and earth bank forming a corner is visible (6.4 long and 2.8m wide), but the area alongside, to the west, is obscured by trees and vegetation. However, this might be interpreted as the north end of a building. The south end is also obscured by stone dumping. The dumping may have occurred during the development of the water treatment works in 1985. However, it is possible the rectangular feature may be the remains of a medieval long house. A rectangular shaped feature can be seen in aerial photograph CPE/UK 1939 (Figure. 8), though this is on a different alignment to the visible remains (see figure 2).

**Recommendations for further assessment:** Trial Excavation

**Recommendations for mitigatory measures:** Await results of evaluation.

**Feature 4      Linear feature, possible wall**

SH 6014 2171

*Period: Unknown*

*Category: E   Impact: None*

A linear feature, about 3.2m wide and 13m long, which is possibly the relict remains of a wall.

**Recommendations for further assessment:** Trial Excavation

**Recommendations for mitigatory measures:** Await Results of evaluation

**Feature 5      Linear feature, possible wall (Plate 3)**

SH 6015 2170

*Period: Unknown, probably post medieval*

*Category: E   Impact: Considerable*

A linear feature, possibly the relict remains of a field wall. It is about 2.5m wide and 6.6m wide and it lies about 20m north of feature 4.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

**Feature 6      Possible rectangular building (Plate 4)**

SH 6045 2156

*Period: Unknown*

*Category: E   Impact: None*

Relict remains of a rectangular building 4.2m wide and 7.7m in length. The west side of the building is visible as 6 upright stones, but the east end has been covered by a tip of stones. These may result from field clearance. The feature is best interpreted as the remains of a long house or field barn.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

#### **Feature 7 Relict Field Wall**

SH 6009 2176 C

*Period: Post medieval*

*Category: C Impact: None*

A relict field wall which runs east-west across the study area. This, with feature 8, divided the area into four fields. The wall is noted on the tithe map of 1842 (figure. 6), but is absent on the 1770 Cors y Gedol estate map (UWB Mostyn MSS S8678 figure. 4), and the 1800 Brynodol estate map (NLW Vol 094/9/2 figure. 5). The tithe schedule refers to the four fields as being part of *Cae Erwerth*, suggesting that the sub-division of the fields was a relatively recent event in 1840. The wall was divided in the centre to create an access track 3m wide during the development of the present water treatment works in 1985.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

#### **Feature 8 Relict field wall. (Plate 7)**

SH 6008 2177C

*Period: Post medieval*

*Category: C Impact: Unknown*

A relict field wall which runs north-south across the study and, with feature 7, divides the assessment area into four fields. It is noted on the tithe map of 1842 in its current form, but is absent on the 1770 Cors y Gedol estate map (UCNWB Mostyn MSS S8678 figure. 4) and the 1800 Brynodol Estate map (NLW Vol.094/9/2 figure. 5). The tithe schedule refers to the four fields as being part of *Cae Erwerth*, suggesting that the sub-division of the fields was a relatively recent event in 1842. The wall was divided in the centre to create an access track 3m wide during the development of the present water treatment works in 1985.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

#### **Feature 9 Relict field wall**

SH 6002 2176 C

*Period: Unknown*

*Category: C Impact: Unknown*

A relict field wall which encloses the study area on the west, east and north sides, and forms one side of the track which surrounds the site on the north and east sides (feature 17). The wall and track are clearly marked on the 1770 estate map.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

#### **Feature 10 Possible medieval enclosure, platform and long-house (Plate 5)**

SH 6004 2169

*Period: Unknown, possibly medieval*

*Category: E Impact: None*

An enclosure, approximately 28m by 16m, enclosing a possible long hut within it. It is located within the south-west corner of the assessment area. It appears to be associated with the extensive Scheduled settlement at site 12 (Me 202), but on the east side of the track way. A portion of this site was destroyed when the compound was created for the development of the present water treatment works. The original extent of this feature can be seen in aerial photographs CPE/UK 1939 and ZEIS 054 71-234 1971 (figure 9&10).

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

**Feature 11 Possible field barn or enclosure***SH59972 176**Period: Post medieval**Category: B Impact: None*

A possible field barn, located on the c.1770 Cors y Gedol estate plan within field E9 (Figure. 4) and the 1<sup>st</sup> and 2<sup>nd</sup> editions 25 inch Ordnance Survey maps (Figures. 7 & 8). On the Ordnance Survey maps, small enclosure walls are noted leading up to it. It is likely to be post medieval in date. This feature no longer exists, but would have once stood where the opening now lies to the road in the southern wall.

**Recommendations for further assessment:** None**Recommendations for mitigatory measures:** None**Feature 12 Medieval enclosure, platform and long hut****PRN 5069***SH5996 2173**Period: Medieval**Category: A Impact: None*

The site, a Scheduled Ancient Monument (Figure. 2; Me202), is an extensive settlement with evidence for at least three long houses within an enclosure, well preserved wall facing and the remains of a drainage hood (GAT 1999,12-13). There is an enclosure, possibly associated with the group, to the east of the scheduled area within the south-west corner of the proposed development area (Feature 10).

**Recommendations for further assessment:** None**Recommendations for mitigatory measures:** None**Feature 13 Possible Romano-British settlement****PRN 841***SH6002 2165**Period: Unknown, possibly Romano-British**Category: B Impact: None*

The site consists of hut circles forming part of a possible Romano-British settlement, noted on the Gwynedd HER. It was not possible to examine this in any detail on the site visit owing to the presence of high bracken cover.

**Recommendations for further assessment:** None**Recommendations for mitigatory measures:** None**Feature 14 Possible Enclosure (Plate 6)***SH6009 2176**Period: Unknown**Category: E Impact: None*

The presence of a possible enclosure was noted within the space where feature 7 curves to the north and feature 8, in an area 22.86m long and 20.36m wide. This could be part of a small hut circle settlement of prehistoric or Romano-British date, with the later field boundary curving around to avoid it. There is also a platform orientated north-south.

**Recommendations for further assessment:** None**Recommendations for mitigatory measures:** None**Feature 15 Possible Cairn (Plate 8)***SH6010 2175**Period: Bronze Age**Category: E Impact: Unknown*

A cairn of 5.87m in length and 5.36m wide, consisting of large boulders around the edge and smaller stones in its centre. This cairn is thought to be possibly of Bronze Age date.

**Recommendations for further assessment:** None**Recommendations for mitigatory measures:** None**Feature 16 Trackway***SH6008 2166**Period: Post medieval**Category: D Impact: None*

A farm trackway is noted on the 1889 25 inch 1<sup>st</sup> edition Ordnance Survey map (Figure. 7), heading east and northwards through the current water treatment works site with a northwards fork towards

Lleceiddor Uchaf. It appears to have been lost when the reservoir was built before 1900, and is not shown on the 2<sup>nd</sup> edition map (Figure. 8). It may lie partially under the current access track to the water treatment works.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

#### **Feature 17      Trackway**

SH6012 2181

*Period: Post medieval*

*Category: C Impact: None*

A trackway noted on the c.1770 Cors Y Gedol Estate map (figure 4) and the c.1800 Brynodol estate map (figure 5) to the west, north and continuing to the east of the study area. It currently survives in part as a track and part as an access route to the fields.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

### **5.      SUMMARY OF ARCHAEOLOGICAL POTENTIAL**

#### **5.1 Location Summary**

The study area consists of an area of land 170m by 130m (2.21ha) to the north of Eithinfynydd farm and the Water Treatment Works (NGR SH 602117), east of Tal-y-Bont, Meirionydd. Sites noted on the Gwynedd HER within 250m of the area are listed in Appendix 1. The development area is located in the south-east corner of the study, and occupies an area less than 0.1 ha.

#### **5.2 Aerial Photographs**

Seven aerial photographs were examined at the National Monuments Record (NMR), Aberystwyth. These showed considerable evidence for complex settlement activity. The possible enclosure (Figure. 2) is clearly seen on image 106G UK 1468 frame 6208, along with the complexity of site 10. A possible long hut is shown within site 10 on 58/RAF/2649, which is also shown on ZEIS 054 71 234 frame 225.

#### **5.3 Environmental Remains and Soil Morphology**

The topsoils on the agricultural land next to the water treatment works are likely to be quite shallow in places. There will however be deeper areas, and the significance for the preservation of environmental remains is unknown at Eithinfynydd itself. However significant survival of late prehistoric plant macrofossils and pollen was uncovered in 1981 at Moel y Gerddi near Harlech which enabled a study of the deterioration of soil conditions and the increasing importance of heath land over time to take place (Chambers and Price 1988, 93-100). During the excavation of a ring cairn at Hengwm during 2002 a 'dark brown, organic rich soil with frequent small charcoal inclusions' was encountered (Johnston and Roberts 2009), the kind of deposit likely to have good preservation of paleo-environmental remains. There is therefore a moderate chance of good survival of environmental remains.

#### **5.4 Artefactual Potential**

The likely presence of artefacts is unknown; however they could survive in association with prehistoric sites, and a limited group of artefacts were recovered from the excavations at Moel Y Gerddi (Kelly 1988) and Moel Goedog (Lynch 1984). A limited quantity of Romano-British artefacts were uncovered from the recent excavations at Rhiwgoch (Evans, 2009 and *forthcoming*). The survival of medieval finds associated with the settlement is potentially low, as the majority of artefacts from this period are organic, and vulnerable to the prevailing acid conditions.

## 6. SUMMARY OF RECOMMENDATIONS

### 6.1 Summary

The detailed recommendations for each of the 17 sites identified during the assessment are given in section 4.4, and are summarised below. The impact given below is related directly to the currently defined development area.

Number	Name	Importance	Impact	Recommendation for further evaluation	Mitigation recommendations
1 ?Pre	historicCairn	E	None	None	None
2 ?Pre	historicCairns	E	None	None	None
3 Rec	tangular feature	E	Considerable	Trial excavation	Await results of evaluation
4	Possible wall	E	Considerable	Trial excavation	Await results of evaluation
5 P	ossible wall	E	None	None	None
6 P	ossible rectangular building	E No	ne	None	None
7 Field	wall	C	None	None	None
8 Field	wall	C	None	None	None
9 Field	wall	C	None	None	None
10 E	nclosure, platform and long hut	E No	ne	None	None
11	Field barn or enclosure	B No	ne	None	None
12 E	nclosure and platform and possible long hut	A N	one	None	<b>Avoidance essential as scheduled ancient monument</b>
13 P	ossible Romano-British settlement	B No	ne	None	None
14 P	ossible enclosure	E No	ne	None	None
15 P	ossible cairn	E	None	None	None
16 Trac	kway	D	None	None	None
17 Trac	kway	C	None	None	None

### 6.2 General Recommendations

The following recommendations are proposed following the completion of an initial topographical survey (Fig 2).

- A programme of trial trenching is recommended to allow a better assessment of the importance of the archaeology in the development area, and to allow appropriate mitigation recommendations to be made. The proposed location of the evaluation trenches is given in Figure 3.
- A suggested compound area and access route is given in Figure 2, designed to avoid identified archaeological sites. The compound area largely occupies the area already cleared and graded for the previous works, and therefore no further work is recommended for the major part of this area. However, one part (see fig. 2) may not have been formerly cleared, and evaluation is recommended for this small area.

- The possibility of carrying out a geophysical survey within the proposed development area was considered during the assessment process. However, given the shallow depths of undifferentiated drift soils above exposed and weathered bedrock, it was thought the results would be too inconclusive, and this technique is not recommended here.

## 7. CONCLUSIONS

The development area lies within the Ardudwy Landscape of Outstanding Historic Interest and adjacent to a Scheduled Ancient Monument. The exposed location of the proposed development site, and the fact that it is visible from quite a wide surrounding area, means that any extension will have some permanent visual impact upon the Ardudwy Landscape of Outstanding Historic Interest, and also the Scheduled Ancient Monument to the west of the study area. However the proposed development will lie adjacent to the existing works, and is relatively small in scale. It is therefore considered that the impact on the historic landscape and the setting of the Scheduled Ancient Monument will be low.

Twelve archaeological sites are noted on the Gwynedd HER within 250m of the study area. One Scheduled Ancient Monument, the Eithinfynydd Platform House (SAM Me202) lies adjacent to the west side. Thirteen possible archaeological sites were identified within the study area through fieldwork and examination of aerial photographs and archive sources.

There is potential for direct impact upon archaeology within the development area. The full nature and extent of the archaeology cannot be assessed without further evaluation, and therefore a programme of trial trenching is recommended, the proposed locations of which are given in Figure 3.

## 8. ARCHIVE

The archive consists of digital survey data, historic maps, plans and aerial photographs, along with notes and 65 digital images taken on the field visit.

Three copies of the bound report will be sent to the SNPA archaeologist, and a further copy sent to the HER Archaeologist at the curatorial division of Gwynedd Archaeological Trust, Bangor, for deposition in the Regional HER. A copy of the report will be provided to the National Monument Record, Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth.

## 9. REFERENCES AND OTHER SOURCES CONSULTED

Beverley Smith J. and Beverley Smith, L. 2001 *History of Merioneth Vol. II*

British Geological Survey 1982 *Harlech-Sheet 135*

Bowen, E.G. and Gresham, C. 1967, *History of Merioneth Vol. I.*

Cadw 1998 *Register of Landscapes of Outstanding Historic Interest in Wales*

Chambers, F.M. and Price, S.M. 1988 'The Environmental Setting of Erw-wen and Moel y Gerddi: Prehistoric Enclosures in Upland Ardudwy, North Wales', *Proc. Prehistoric Soc.* 54, 93-100

Crawford, O.G.S. 1920 'Account of Excavations at Hengwm, Merionethshire, August and September 1919', *Arch. Camb.*, Sixth Series, Vol XX, 99-128

Davidson A 2001, Parish Churches in *History of Merioneth Vol II* eds J Beverly Smith and L Beverly Smith

Davidson, A. and Hopewell, D. 2003 *Waste Water Treatment Works, Llanbedr, Gwynedd (G1795)* (Unpublished GAT Report No. 510)

Davidson, J., Hopewell, D. and Roberts, J. 2005 *Harlech to Llanbedr and Llanbedr to Llandanwg Rising Mains* (Unpublished GAT Report No. 594)

- De Lewandowicz, M. 1981 *Relict Fields and Associated Structures in Llanaber Parish, Meirionnydd*. Unpublished B.A. Dissertation, UCNW Bangor.
- Evans, R.T.J. 2008 *Rhiwgoch Water Treatment Works, Archaeological Assessment* (Unpublished GAT Report 754).
- Evans, R.T.J. 2009 *Harlech Link Main. Archaeological Strip, Map and Sample* (Unpublished GAT Report 820)
- GAT, 1999 *Deserted Rural Settlement in Meirionnydd* (Unpublished GAT Report 320)
- Ghey, E., Edwards, N., Johnston, R. and Pope, R. 2007 'Characterising the Welsh Roundhouse: Chronology, Inhabitation and Landscape', *Internet Archaeology* 23.
- Gresham, C. 1954. 'Platform Houses in North-West Wales', *Arch. Camb. CII*, 18-53
- Gwyn D. Rh. 1996. *Llanbedr to Harlech Link Main, Archaeological Assessment*. (Unpublished GAT Report 208)
- Hooke, D. 1975. 'Llanaber: A Study in Landscape Development', *J. Merioneth Historical and Record Soc.* VII, 221-230
- Hopewell, D. 2003 *Harlech to Llanbedr and Llanbedr to Llandanwg Rising Mains, Archaeological Assessment (G1795)* (Unpublished GAT Report No. 490)
- Hopewell, D. 2007 *Roman Roads in North-West Wales (Revision 4)*. Unpublished GAT Report 668
- IFA 2001. *Standard and Guidance for Archaeological Desk-based Assessment* (1994, rev. 2001).
- Johnston, R. and Roberts, J.G. 2009 *Ardudwy Early Landscapes Project*. Seen on 17<sup>th</sup> November 2009 at <http://www.bangor.ac.uk/history/research/archaeology/ardudwy/index.php.en>
- Kelly, R. 1982 *The Ardudwy Survey: Fieldwork in Western Merioneth 1971-81*. *J. Merioneth Historical Record Soc.* IX II, 121-162.
- Kelly, R. 1988 'Two Late Prehistoric Circular Enclosures near Harlech, Gwynedd', *Proc. Prehistoric Soc.* 54, 151
- Lynch, F.M. 1969 'The Megalithic Tombs of North Wales' in T.E.G. Powell *Megalithic Enquiries in the West of Britain*, 107-174
- Lynch, F.M. 1984 'Moel Goedog Circle: a Complex Ring Cairn near Harlech', *Arch. Camb. CXXXIII*, 8-50
- Lynch, F.M., Aldhouse-Green, S. and Davies, J.L. 2000 *Prehistoric Wales*
- Muckle Partnership, 2003 *Archaeological Survey of Egryn Abbey, Merioneth, Gwynedd*. Unpublished Report
- Nash Williams V E 1950, *Early Christian Monuments of Wales*
- Powell, T.G.E. 1973 'Excavation of the Megalithic Chambered Cairn at Dyffryn Ardudwy, Merioneth, Wales', *Archaeologia* 104, 1-49
- RCAHM 1921 *Inventory of the County of Merioneth*
- Smith, B. and George, T.N. 1961 *British Regional Geology. North Wales*
- Smith, P. 2001 'Houses c.1415-c.1642' in Beverly-Smith, J. and Beverley-Smith, L. (eds.) 2001 *History of Merioneth Vol. II The Middle Ages* 422-506.

Thomas, C. 2007. 'Tudor Enclosures in Merioneth', *Merioneth Historical Record Soc.* XV II, 129-141.

### **GAT Historic Environment Record**

### **Bangor University Archives**

#### Mostyn MSS

S 8678 *Lands in the Parishes of Llanenddwyn and Llanddwywe*

B 8672 *Allotments in the Parish of Llanddwywe*

S 8628 *Plan of parts (lots 41-59) of the Cors-y-Gedol estate in the parishes of Llanenddwyn and Llanddwywe, co. Merioneth to be sold 10 November 1858*

### **National Library of Wales**

Tithe Map of the Parish of Llanddwywe, Meirionydd 1842

Owen, R. 1800 *A Plan of Brynodol and Llanfair estates, in the county of Caernarfon, also Taltryddyn Estate, in the County of Merioneth, the Property of John Griffith Esquire* (Vol 094/9/2).

### **RCAHM Wales Aberystwyth**

#### *Aerial Photographs*

#### **Verticals**

#### RAF

106G UK 1468 Frame 6208 Taken 4<sup>th</sup> May 1946

CPE/UK 1939 F20 Frame 4026 Taken 19<sup>th</sup> January 1947

58/RAF/2649 Frame 0102 Taken 5<sup>th</sup> December 1958

#### Ordnance Survey

ZEIS 054 71-234 Frame 225 Taken 21<sup>st</sup> May 1971

WILD 704 71-286 Frames 169+170 Taken 4<sup>th</sup> June 1971

#### **Obliques**

#### RCAHMW

975058-53 Shot of Eithin Fynydd Platform House SAM, show area of proposed development.

## **Appendix 1 Definitions of Site Importance and Mitigation**

### ***Categories of importance***

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

#### ***Category A - Sites of National Importance.***

Scheduled Ancient Monuments, Listed Buildings of grade II\* and above, as well as those that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both.

Sites that 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.***

Grade II listed buildings and 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 that are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category.

For Category D sites, rapid recording, either in advance of 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 usually be no sites remaining in this category. In this case several areas of unknown potential have been allocated to this category.

### ***Definition of Impact***

The impact of the road development on each site was estimated. The impact is defined as *none*, *slight*, *unlikely*, *likely*, *significant*, *considerable* or *unknown* as follows:

#### ***None:***

There is no construction impact on this particular site.

#### ***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. part of a trackway or field bank.

*Unlikely:*

This category indicates sites that fall within the band of interest but are unlikely to be directly affected. This includes sites such as standing and occupied buildings at the margins of the band of interest.

*Likely:*

Sites towards the edges of the study area, which may not be directly affected, but are likely to be damaged in some way by the construction activity.

*Significant:*

The partial removal of a site affecting its overall integrity. Sites falling into this category may be linear features such as roads or tramways where the removal of part of the feature could make overall interpretation problematic.

*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.

**Definition of field evaluation techniques**

Field evaluation is necessary to fully understand and assess most class E sites and to allow the evaluation of 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. Topographic survey may also be employed where sites are thought to survive as earthworks.

Geophysical survey most often involves the use of a magnetometer, which allows detection of some underground features, depending on their composition and the nature of the subsoil. Other forms of geophysical survey, including resistivity survey and ground penetrating radar might also be of use.

Trial trenching allows a representative sample of the development area to be investigated at depth. Trenches of appropriate size can also be excavated to evaluate category E sites. Trenching is typically carried out with trenches of between 20 to 30m length and 2m width. The topsoil is removed by machine and the resulting surface is cleaned by hand, recording features. Depending on the stratigraphy encountered the machine may be used to remove stratigraphy to deeper levels.

**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:*

This requires a full photographic record and measured survey 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.

*Strip, Map and Sample:*

The technique of Strip, Map and Sample involves the examination of machine-stripped surfaces to identify archaeological remains. The stripping is undertaken under the supervision of an archaeologist. Stripping and removal of the overburden is undertaken in such a manner as to ensure damage does not take place to surfaces that have already been stripped, nor to archaeological surfaces that have not yet been revealed.

Stripping is undertaken in as careful a manner as possible, to allow for good identification of archaeological features. A small team of archaeologists will be responsible for subsequently further cleaning defined areas where necessary. Complex sites which cannot be avoided will need to be fully excavated.

*Watching brief:*

This is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

*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.

## Appendix 2 Sites on the Gwynedd HER within 250m of the Eithinfynydd WTW

PRN	NPRN	SITENAME	NGR	STATUS
2939	56154	Robbed Platform House Eithinfynydd	SH60102195	
5069	56778	Settlement-Tyddyn y Felin	SH59982175	SAM Me 202
1071 573 74		Defended Settlement, Eithinfynydd	SH59922150	
1078	57381	Sub-Roman homestead, Tyddyn y Felin	SH59792182	
841	58188	Possible Homestead, Eithinfynydd	SH60022165	
5630	61800	Hut circle, Tyddyn y Felin	SH59902174	
5856	63366	Enclosed Homestead, Hendre-Fechan	SH59552151	
5857 633 67		Rectangular Feature, Eithinfynydd	SH59902143	
6676	63801	Ruined House and Enclosure, Eithinfynydd	SH60452156	
6682 638 06		Possible Enclosure, Eithinfynydd	SH60212147	
6683	63807	Possible Hut Circle, Eithinfynydd	SH60252143	
6677 638 59		Lynchets, Eithinfynydd	SH59982175 C	





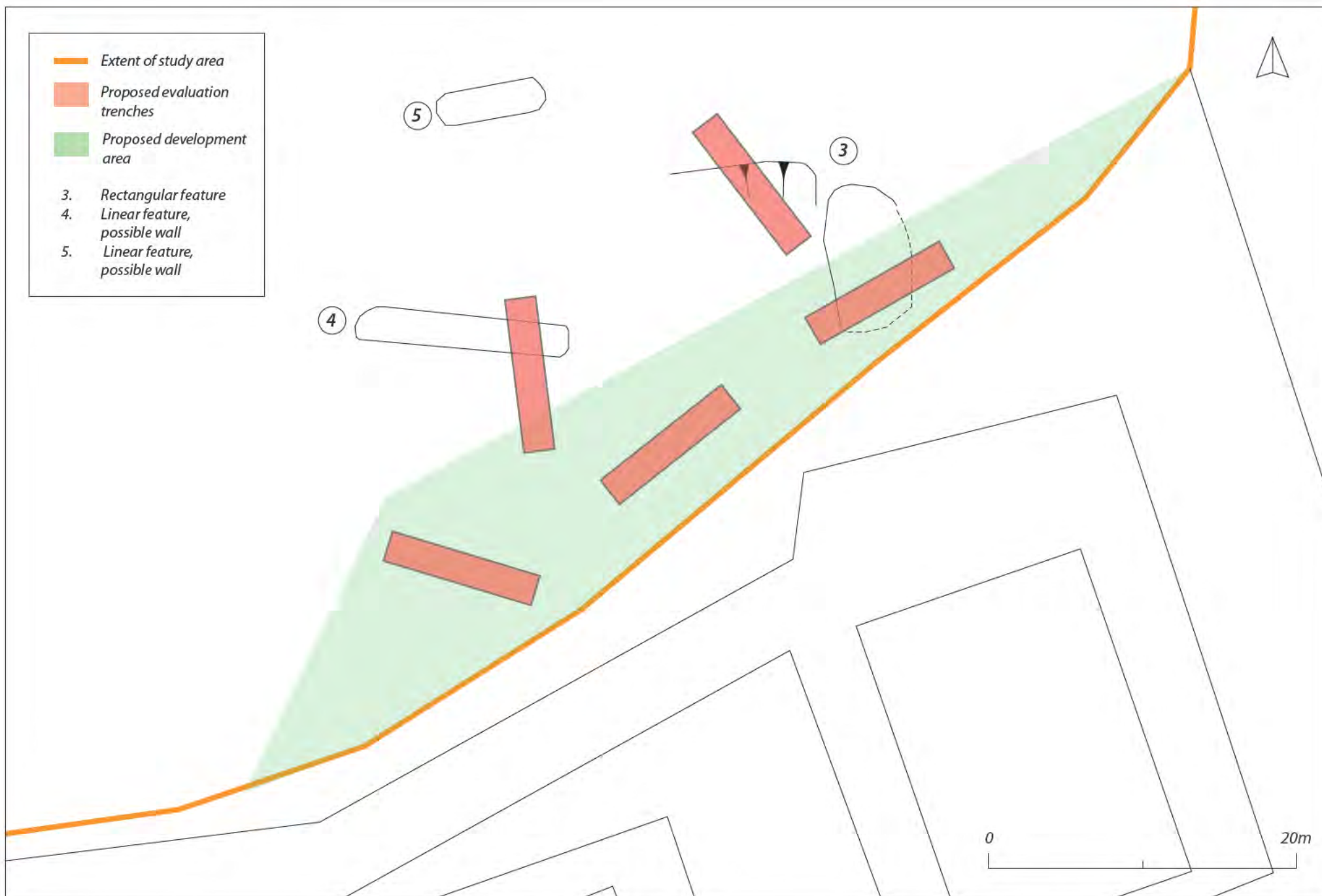


Figure 3: Location of proposed evaluation trenches.

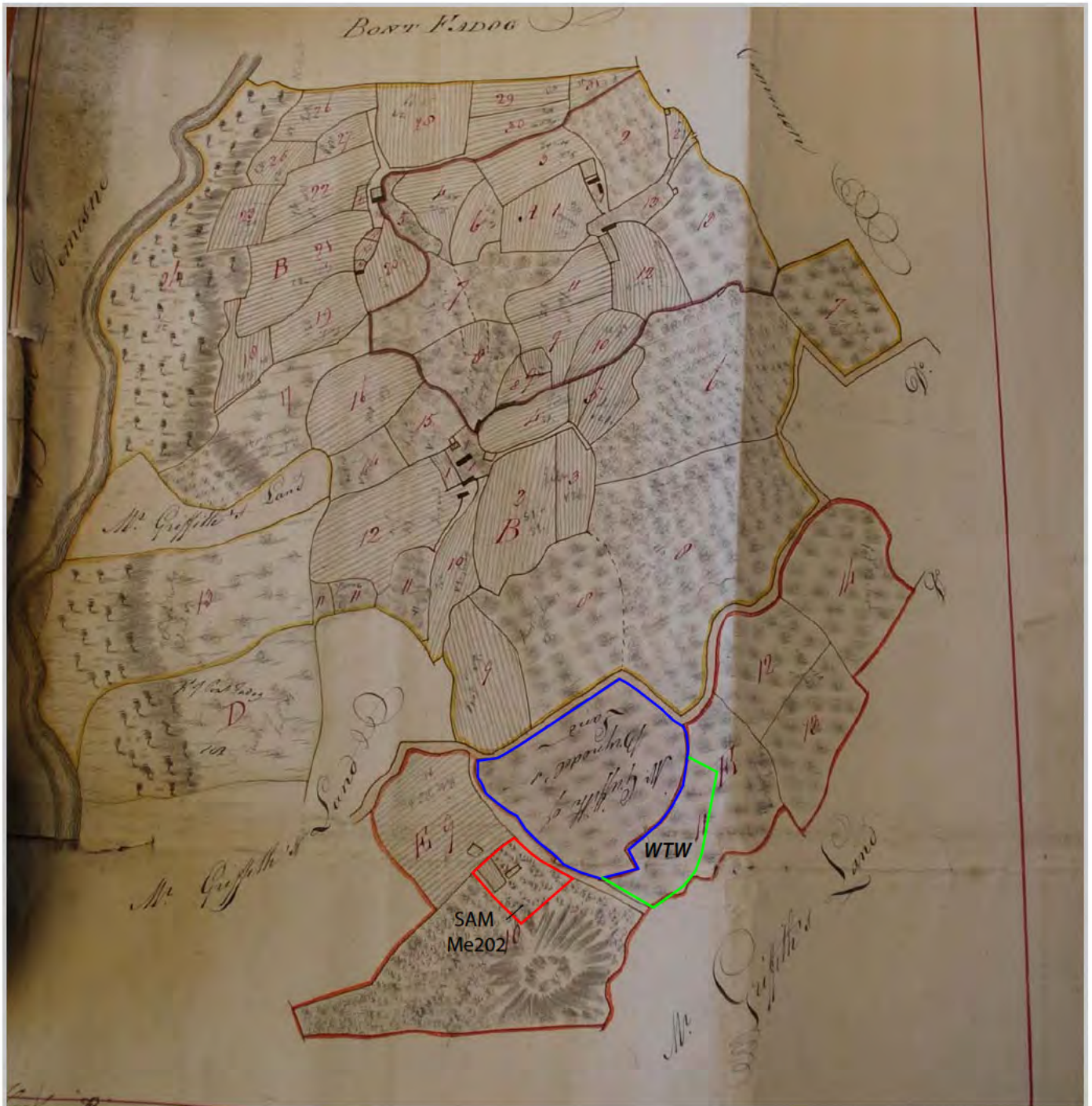


Figure 4. Corys-y-Gedol Estate Map c. 1770 (Bangor University Archives, Mostyn MSS S8678). Development Area outlined in blue, Scheduled Ancient Monument in red and Water Treatment Works in Green.

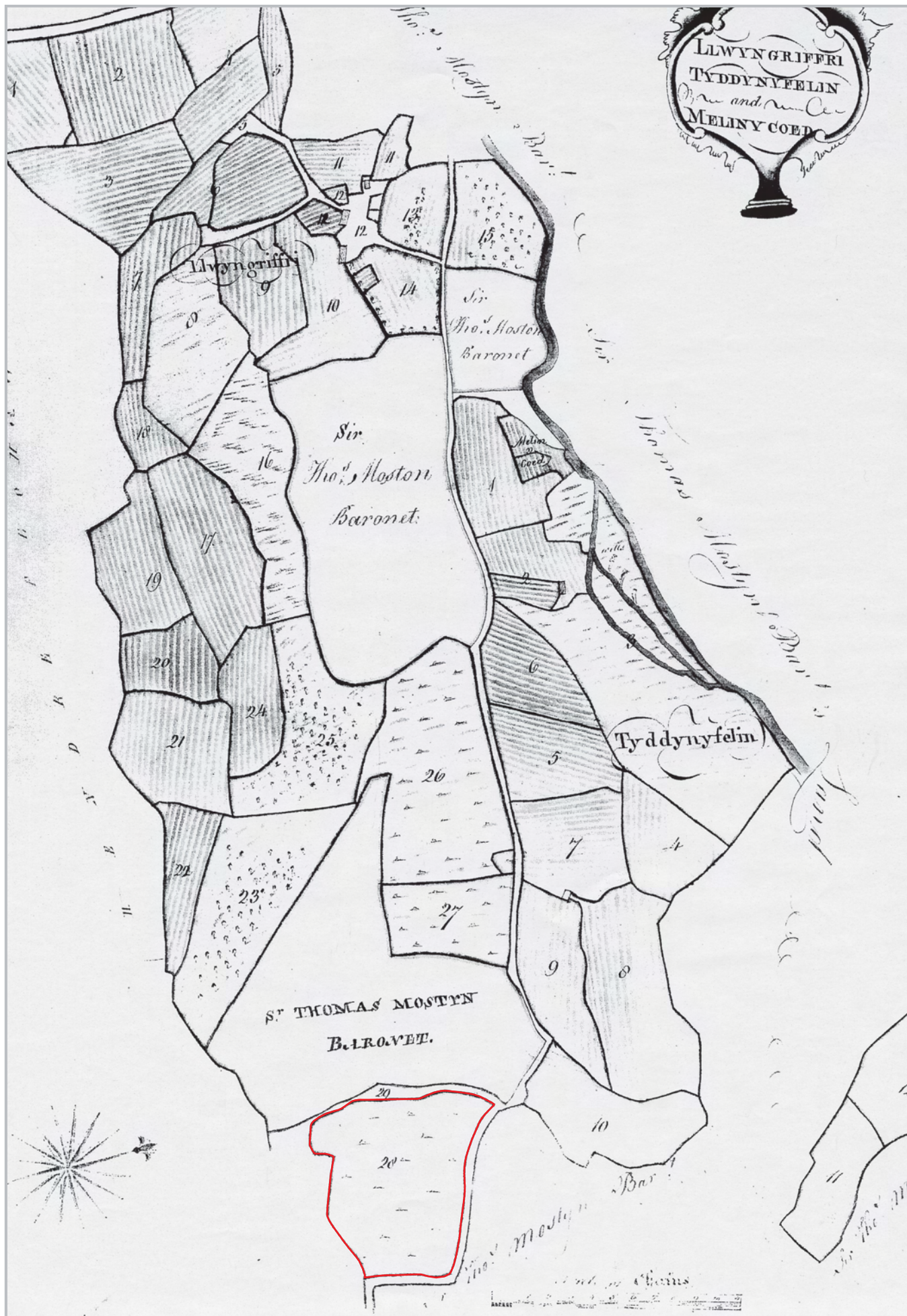


Figure 5. A plan of Brynodyn and Llanfair estates, in the county of caernarfon, also Taltreyddyn estate, in the county of Merioneth: the property of John Griffith Esq. by Richard Owen 1800.

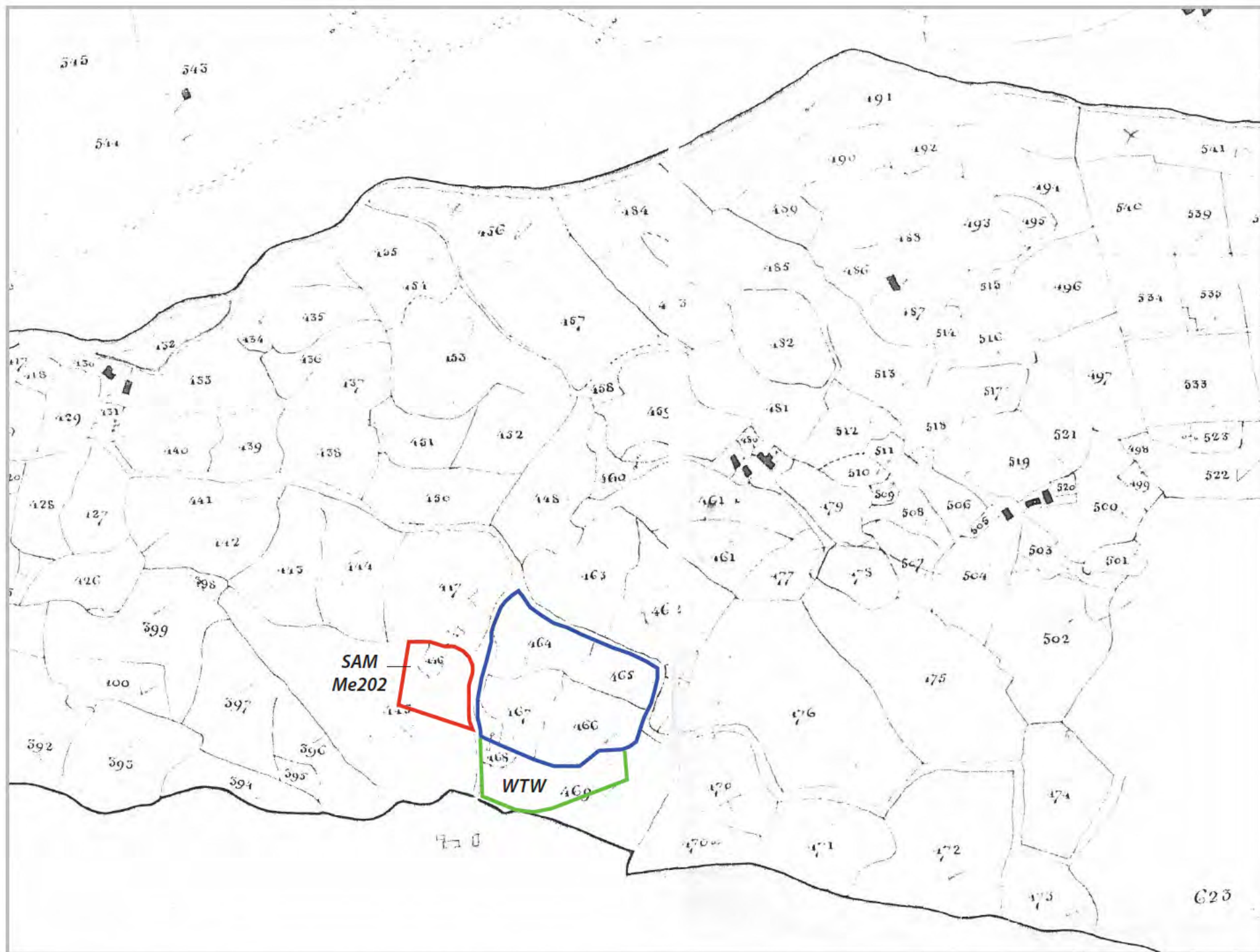


Figure 6. Tithe Map of the Parish of Llanddwye 1840 with assessment area outlined in blue, WTW in Green and SAM in red

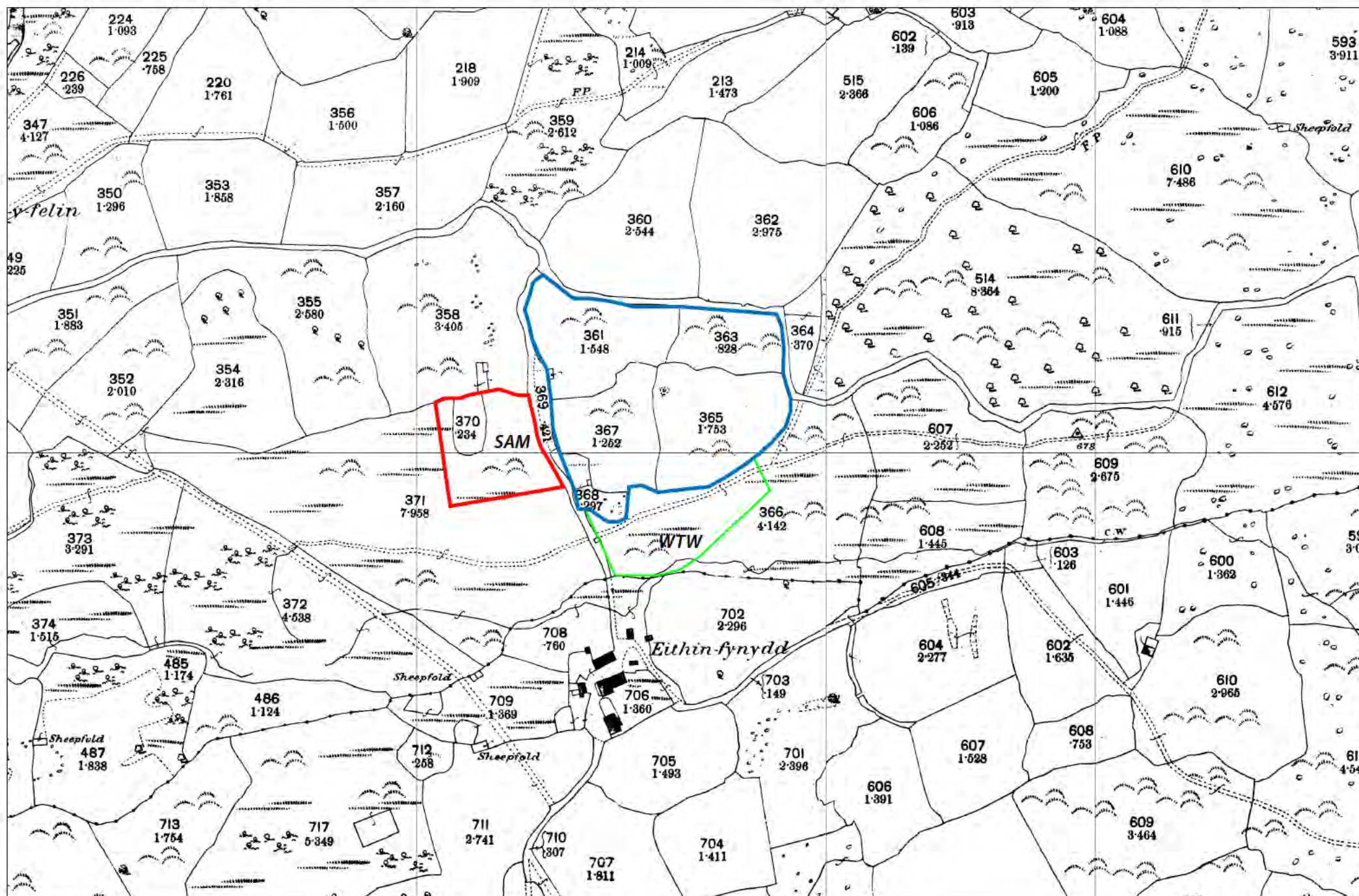


Figure 7. 1st edition 25 inch Merioneth Ordnance Survey Map of 1889. Sheets XXXII.5 and XXXII.6. Scale 1:3000. Development area outlined in blue, water treatment works in green and Scheduled Ancient Monument in red.





Figure 9. Aerial photograph RAF Vetic. CPE/UK 1939 F20 Frame 4026 Taken 19th January 1947

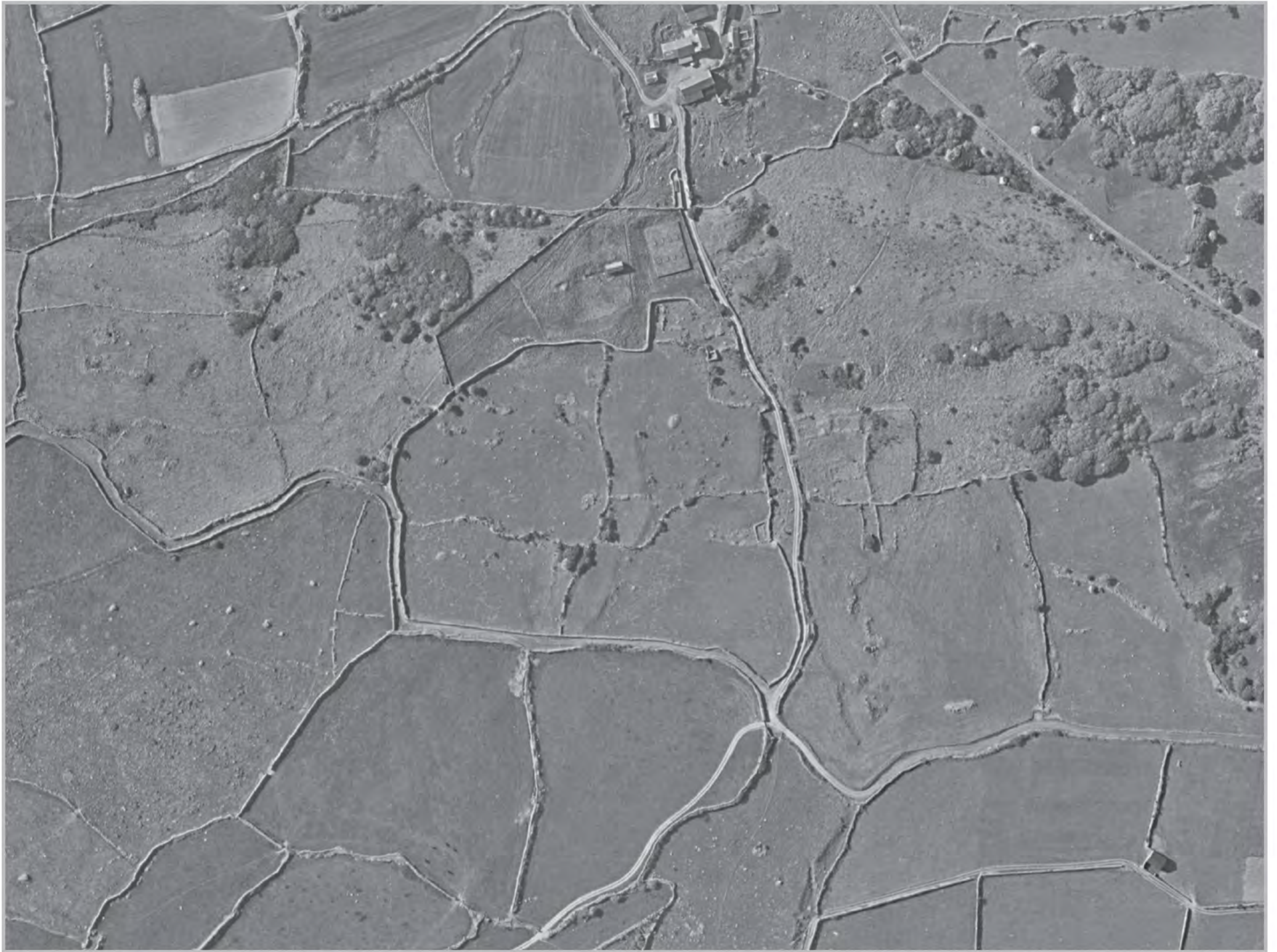


Figure 10. Aerial photograph OS survey vertical. ZEIS 054 71-234 Frame 225 Taken 21st May 1971



**Plate 1:** *Feature 2. Possible prehistoric cairn, field clearance or construction activity from the first phase of works. View taken from the north-west.*



**Plate 2:** *Feature 3. Possible remains of a rectangular building. View taken from the south-east.*



**Plate 3:** *Feature 5. Possible wall. View taken from the south-east.*



**Plate 4:** *Feature 6. Remains of a rectangular building, possible medieval long house or field barn. View taken from the south-west.*



**Plate 5:** *Feature 10. Possible medieval enclosure, platform and long hut. View taken from the south-west.*



**Plate 6:** *Feature 14. Possible enclosure. View taken from the north-east.*



**Plate 7:** *Feature 8. Relict feild wall. View taken from the south-west.*



**Plate 8:** *Feature 15. Possible Bronze Age cairn. View taken from the East.*



YMDDIRIEDOLAETH  
ARCHAEOLEGOL  
GWYNEDD



GWYNEDD  
ARCHAEOLOGICAL  
TRUST

Craig Beuno, Ffordd y Garth, Bangor, Gwynedd. LL57 2RT  
Ffon: 01248 352535. Ffacs: 01248 370925. email: [gat@heneb.co.uk](mailto:gat@heneb.co.uk)