

# **CARNAWALLON FAWR SURFACE ANTHRACITE MINE, PONTNENRI, CARMARTHENSHIRE: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**



Prepared by Dyfed Archaeological Trust  
for Draeth Developments



ymddiriedolaeth archaeolegol  
**DYFED**  
archaeological trust



# DYFED ARCHAEOLOGICAL TRUST

RHIF YR ADRODDIAD / REPORT NO. 2017/36  
RHIF Y DIGWYDDIAD / EVENT RECORD NO. 110464

Mehefin 2017  
June 2017

## CARNAWLLON FAWR SURFACE ANTHRACITE MINE, PONTNENRI, CARMARTHENSHIRE:

### HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT

Gan / By

**Alice Day ACIfA**

*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth Archaeolegol Dyfed Cyf am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys*

*The report has been prepared for the specific use of the client. Dyfed Archaeological Trust Limited can accept no responsibility for its use by any other person or persons who may read it or rely on the information it contains.*



**BUDDSODDWYR | INVESTORS**  
**MEWN POBL | IN PEOPLE**

Ymddiriedolaeth Archaeolegol Dyfed Cyf  
Corner House, 6 Stryd Caerfyrddin, Llandeilo, Sir  
Gaerfyrddin SA19 6AE  
Ffon: Ymholiadau Cyffredinol 01558 823121  
Adran Rheoli Treftadaeth 01558 823131  
Epost: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)  
Gwefan: [www.archaeolegdyfed.org.uk](http://www.archaeolegdyfed.org.uk)

Dyfed Archaeological Trust Limited  
Corner House, 6 Carmarthen Street, Llandeilo,  
Carmarthenshire SA19 6E  
Tel: General Enquiries 01558 823121  
Heritage Management Section 01558 823131  
Email: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)  
Website: [www.dyfedarchaeology.org.uk](http://www.dyfedarchaeology.org.uk)

*Cwmni cyfyngedig (1198990) ynghyd ag elusen gofrestredig (504616) yw'r Ymddiriedolaeth.  
The Trust is both a Limited Company (No. 1198990) and a Registered Charity (No. 504616)  
CADEIRYDD CHAIRMAN: Professor B Burnham. CYFARWYDDWR DIRECTOR: K Murphy BA MCIfA*





**CARNAWLLON FAWR SURFACE ANTHRACITE MINE, PONTHENRI,  
CARMARTHENSHERE:  
HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

**CONTENTS**

	<b>SUMMARY</b>	1
<b>1</b>	<b>INTRODUCTION</b>	2
1.1	Project Proposals and Commission	2
1.2	Scope of the Project and Methodology	2
1.3	Abbreviations	4
1.4	Illustrations	4
1.5	Timeline	4
<b>2</b>	<b>LOCATION, TOPOGRAPHY AND GEOLOGY</b>	5
<b>3</b>	<b>HISTORICAL, LANDSCAPE AND ARCHAEOLOGICAL BACKGROUND</b>	9
3.1	Archaeological and Historic Background	9
3.2	Historic Landscape Areas	10
3.3	Historic Parks and Gardens	11
3.4	Scheduled Monuments	11
3.5	Listed Buildings	11
3.6	Non-designated Archaeological Sites	14
3.7	Other Archaeological finds	30
3.8	Aerial Photography and LiDAR	32
3.9	Historic Mapping	33
3.10	Site Walkover Survey	40
<b>4</b>	<b>POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT ON THE HISTORIC ENVIRONMENT</b>	55
4.1	Previous Impacts to the Development Site	55
4.2	The Potential Impacts of the Proposed Development	55
4.3	Impacts to the Settings of Surrounding Designated Features	55
<b>5</b>	<b>ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL AND IMPORTANCE</b>	56
<b>6</b>	<b>DISCUSSION</b>	60
6.1	General Conclusions	60
6.2	Archaeological Mitigation	61
<b>7</b>	<b>SOURCES</b>	62

## **TABLES**

<b>Table 1:</b>	Archaeological and historical timeline for Wales	5
<b>Table 2:</b>	Grade II Listed Buildings within 2km of the boundary of the proposed development	11
<b>Table 3:</b>	Known heritage assets of Pre-Roman date within 2km of the proposed development site	14
<b>Table 4:</b>	Known heritage assets of medieval date within 2km of the proposed development site	17
<b>Table 5:</b>	Known heritage assets of medieval/Post-Medieval date within 2km of the proposed development site	17
<b>Table 6:</b>	Known heritage assets of Post-Medieval date within 2km of the proposed development site	19
<b>Table 7:</b>	Known heritage assets of modern date within 2km of the proposed development site	29
<b>Table 8:</b>	Archaeological sites identified during the 2008 desk-based assessment	30
<b>Table 9:</b>	Details recorded in 1842 apportionment to tithe map	33
<b>Table 10:</b>	Known archaeological sites within the boundary of the proposed development	56
<b>Table 11:</b>	Site potential definitions	58
<b>Table 12:</b>	Site importance definitions	58

## **FIGURES**

<b>Figure 1:</b>	Map showing the location of Carnawllon Fawr, Ponthenri, Carmarthenshire, Pembrokeshire	6
<b>Figure 2:</b>	Plan of the proposed coal extraction site	7
<b>Figure 3:</b>	Detailed plan of the proposed development site,	8
<b>Figure 4:</b>	Scheduled Monuments and Listed Buildings within 2km of the proposed development site	13
<b>Figure 5:</b>	Adaptation of 1 <sup>st</sup> edition 1:2500 scale Ordnance Survey map showing the locations of excavation trench and the gas pipeline	16
<b>Figure 6:</b>	Copy of sketch plan of PRN 5781 made during an archaeological field visit in 1980	16
<b>Figure 7:</b>	Known heritage assets of Bronze Age, Iron Age, Medieval and Medieval/Post-Medieval date within 2km of the proposed development site	18
<b>Figure 8:</b>	Known heritage assets of Post-Medieval date within 2km northeast of the proposed development site	25
<b>Figure 9:</b>	Known heritage assets of Post-Medieval date within 2km northwest of the proposed development site	26
<b>Figure 10:</b>	Known heritage assets of Post-Medieval date within 2km southeast of the proposed development site	27
<b>Figure 11:</b>	Known heritage assets of Post-Medieval date within 2km southwest of the proposed development site	28

<b>Figure 12:</b>	Known heritage assets of modern and unknown date within 2km of the proposed development site	29
<b>Figure 13:</b>	Map of archaeological sites identified during the 2008 desk-based assessment	31
<b>Figure 14:</b>	Aerial Photograph of 1946 with Carnawllon-Fawr farm half way up the image along its right-hand edge	32
<b>Figure 15:</b>	Extract of the Llanelli Parish Tithe Map of 1842	34
<b>Figure 16:</b>	Extract of the first edition 1:2500 Ordnance Survey map of 1880, showing the northern half of the proposed development site	35
<b>Figure 17:</b>	Extract of the first edition 1:2500 Ordnance Survey map of 1880, showing the southern half of the proposed development site	36
<b>Figure 18:</b>	Extract of the second edition 1:2500 Ordnance Survey map of 1906	37
<b>Figure 19:</b>	Extract of the 1:2500 Ordnance Survey map of 1915	38
<b>Figure 20:</b>	Purple triangles with letters show sites referred to in the text, whilst numbered blue arrows indicate the position and direction of photos	39
<b>Figure 21:</b>	Purple triangles with letters show sites discovered during this desk-based assessment, whilst numbered red stars are existing PRN records	57

## PHOTOGRAPHS

<b>Photo 1:</b>	Looking north at lumps in the ground immediately to the southwest of Carnawllon Fawr farmhouse, at least one of which is due to brick and stone building rubble. Outbuildings are visible beyond.	40
<b>Photo 2:</b>	Looking northwest at outbuildings immediately to the southwest of Carnawllon Fawr farmhouse. At least one of the lumps in the ground in front of the buildings is due to brick and stone building rubble.	41
<b>Photo 3:</b>	Looking northeast across the path of the gas pipeline southwest of Carnawllon Fawr Farm. The nearest wooden fences bound the pipeline corridor.	41
<b>Photo 4:</b>	Looking west-northwest towards defended enclosure PRN 5781, which is just this side of the trees	42
<b>Photo 5:</b>	Looking northeast across defended enclosure PRN 5781. The gas pipeline runs across the image beyond the wooden fence.	42
<b>Photo 6:</b>	Looking south-southwest at a piece of dressed stone leaning against a tree at defended enclosure PRN 5781, with a 1m scale.	43
<b>Photo 7:</b>	Looking north-northeast at an old earthen hedge bank now overgrown with trees, northeast of Lenham Court at SN 48840 09770, with 1m scale	44
<b>Photo 8:</b>	Looking southwest along a mining level from its east end at SN 48717 09879, with a 1m scale	44

<b>Photo 9:</b>	Looking south-southeast at a spoil heap at the east end of a mining level at SN 48717 09789	45
<b>Photo 10:</b>	Looking northwest over a 6m drop at the east end of a mining level, coinciding with a stream but potentially a large coal pit.	45
<b>Photo 11:</b>	Looking northeast at a water-filled coal pit near the east end of a mining level at SN 48649 09847	46
<b>Photo 12:</b>	Looking southeast along a mining level at SN 48670 09905, now flowing with water	46
<b>Photo 13:</b>	View northwest to the other side of the Gwendraeth Fawr river valley, from near the northwestern boundary of the proposed site. Looking along the gas pipeline corridor.	47
<b>Photo 14:</b>	View southeast from near the northwestern boundary of the proposed site. Looking along the gas pipeline corridor up towards the site of defended enclosure.	48
<b>Photo 15:</b>	View northeast from SN 48740 10003, near the northwestern-most corner of the proposed site. The hills on the left and in the distance are very large spoil heaps.	48
<b>Photo 16:</b>	View northeast from SN 48989 10141, near to the northwestern-most corner of the proposed site. The hill straight ahead is a very large spoil heap, partially within the site.	49
<b>Photo 17:</b>	Looking north at a coal pit at SN 48984 10210, near the northwestern-most corner of the proposed site	49
<b>Photo 18:</b>	Looking northwest at trees and other vegetation covering a coal shaft and spoil heap at SN 48880 10035, 200m northwest of Carnawllon Fawr	50
<b>Photo 19:</b>	Looking southeast along a stream that had been widened and deepened, probably for coal extraction	50
<b>Photo 20:</b>	View southeast from highest point of proposed development site; the easternmost field	51
<b>Photo 21:</b>	Looking north-northeast at the farmhouse at Carnawllon Fawr, with a barn in the foreground on the right	51
<b>Photo 22:</b>	Looking east at the barn immediately south of the farmhouse at Carnawllon Fawr	52
<b>Photo 23:</b>	Looking north-northeast at the barn immediately south of the farmhouse at Carnawllon Fawr, with the farmhouse beyond	52
<b>Photo 24:</b>	Looking north-northwest at the back of the barn immediately south of the farmhouse at Carnawllon Fawr	53
<b>Photo 25:</b>	Looking northeast at the barn immediately southwest of the farmhouse at Carnawllon Fawr	53
<b>Photo 26:</b>	Looking south at the farmhouse at Carnawllon Fawr	54

## **CARNAWLLON FAWR SURFACE ANTHRACITE MINE, PONTHENRI, CARMARTHENSHIRE:**

### **HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

#### **SUMMARY**

*DAT Archaeological Services were commissioned by Draeth Developments to prepare a Historic Environment Desk-Based Assessment for the proposed development of a surface anthracite mine around Carnawllon Fawr, Ponthenri, Carmarthenshire (approximately centred at NGR SN 4884 1000).*

*A heritage assessment had previously been carried out in 2008 followed by an evaluation in 2010, but the original planning application (No. S/18128) was refused and a new proposal has now been made. A new archaeological report was required to take into account the reduced size of the area and to up -date historic environment information.*

*The development proposals are for the extraction of anthracite over four and a half years. An access road and haul road corridor into the site would be created from the B4317 road to the southeast. Settlement lagoons and drainage discharge systems would then be established with soil being stored in mounds. After completion of coal extraction in each area of the site, restoration would also take place leading to the creation of a mix of woodland, pasture, ponds and wetlands and a new public-access circular route.*

*The proposed development lies within two historic landscapes recorded on the National Resources Wales LANDMAP database. One of these landscapes is classified as a mostly modern agricultural landscape created following open cast coaling operations, and is of low historic value. The other is a high value because it is a good example of a Carmarthenshire agricultural landscape, and has a rich association with the coal mining traditions of Carmarthenshire.*

*There is one Scheduled Monument and there are eight Grade II Listed Buildings within 2km of the proposed mining site. The setting of these designated sites will not be impacted upon by the proposed development as there is no intervisibility between them. There are no designated assets further afield whose setting would be impacted upon by the proposals.*

*Four previously known sites exist within the boundary of the proposed development: Carnawllon Fawr defended enclosure (PRN 5781) of Iron Age/Early Medieval/medieval date; parts of Carnawllon Fawr Farm; a coal mining shaft; and mining levels. About ten more sites have been discovered during this investigation, all Post-Medieval in date and either agricultural or industrial in type.*

*Archaeological potential and significance for different time periods was estimated based upon knowledge of the recorded archaeological sites in the area and patterns known to exist regionally. The potential for Palaeolithic archaeology is non-existent; for Mesolithic and Neolithic archaeology it is extremely low; for the Bronze and Iron Ages the potential is thought to be medium and the significance of any finds would be at least medium; for the Roman period it is considered to be very low; medium for the Early-Medieval and medieval periods (with at least medium importance); and for the Post-Medieval period the potential is thought to be high, especially for colliery related sites, although such remains would be of low significance.*

*It is possible that further archaeological works may be required within the site area where groundworks are proposed which would be very destructive to any below ground remains which might be present. The scope of any required archaeological works would need to be discussed with the Dyfed Archaeological Trust – Development Management section in their capacity as archaeological advisors to the planning authority.*

## **1 INTRODUCTION**

### **1.1 Project Proposals and Commission**

- 1.1.1 DAT Archaeological Services were commissioned by Draeth Developments to prepare a Historic Environment Desk-Based Assessment for the proposed development of a surface anthracite mine around Carnawllon Fawr, Ponthenri, Carmarthenshire (centred approximately at NGR SN 4884 1000; Figure 1).
- 1.1.2 A desk-based heritage assessment of the development site was carried out by Dyfed Archaeological Trust in October 2008 (Ratty 2008) for CDN Planning and was subsequently followed up with a small trial trench evaluation in 2010 (Meek and Ramsey 2010). The original planning application (No. S/18128) was refused and a new, reduced-size proposal was made. A new archaeological report was required to take into account the reduced size of the area, up-to-date historic environment information and the results of the aforementioned evaluation.
- 1.1.3 The 2008 desk-based assessment showed that there was archaeological potential for a possible Iron Age defended enclosure within the proposed development area to the west of Carnawllon Fawr farmhouse. The name of Carnawllon Fawr may also indicate a possible centre for Early Medieval and medieval power, and there was also potential for remains associated with Post-Medieval coal mining operations throughout most of the site.
- 1.1.4 During the 2010 archaeological evaluation, excavation of a single trial trench took place at the potential Iron Age defended enclosure. A large ditch was found in the area where the possible line of the fort defences was expected. A dressed stone fragment of uncertain date (medieval/Post-Medieval) was recovered from the upper fill of the ditch. At the base of the ditch a modern plastic drainage pipe had been laid, but it was thought likely that the ditch originated in medieval or earlier times.
- 1.1.5 The revised development proposals are for the extraction of 210,000 tonnes of high quality anthracite over a 4.5 year period. An access road and haul road corridor into the site would be created from the B4317 road to the southeast. Settlement lagoons and drainage discharge systems would then be established with soil being stored in mounds. After completion of coal extraction in each area of the site, restoration would also take place: The creation of a mix of woodland, pasture, ponds and wetlands and a new public-access circular route.

### **1.2 Scope of the Project and Methodology**

- 1.2.1 The scope of the assessment follows the Standard And Guidance For Historic Environment Desk-Based Assessment as laid down by the Chartered Institute for Archaeologists (CIfA 2014). The standard is stated as:

*Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and*

*decisions to be made whether to mitigate, offset or accept without further intervention that impact.*

1.2.2 A desk-based assessment is defined by CIfA as:

*a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.*

1.2.3 The desk-based study of the area identifies known archaeological sites within the site and its environs, and assesses the potential for hitherto unknown remains to be present within the proposed development area. An indication is also given of what further archaeological works might be required in advance of or during the proposed residential development.

1.2.4 The scope of the report also includes an assessment of the impact on the settings of surrounding features of the historic environment, including scheduled monuments, listed buildings, historic landscape character areas and undesignated archaeological sites.

1.2.5 The report presents relevant information from a number of sources including:

- Dyfed Archaeological Trust Historic Environment Record data;
- On-line National Monuments Record of Wales data held by the Royal Commission on the Ancient and Historic Monuments of Wales in Aberystwyth (Coflein);
- Aerial photographic search, National Monuments Record, Aberystwyth;
- A search of the Pembrokeshire Record Office;
- National Library of Wales, Aberystwyth;
- Identification of any Scheduled Monuments, Listed Buildings, Parks and Gardens, Historic Landscape Character Areas or Conservation Areas within or in the vicinity of the site area (Cadw, DAT, NRW – via the Landmap website);
- Site visit and walkover survey;
- Assessment of the archaeological potential of the area;
- Assessment of the likely impact upon the settings of surrounding features of the historic environment; and
- Assessment of likely impacts on any identified remains within the development site (or potential remains) and likely requirements, if any, for further stages of archaeological work.

1.2.6 This report provides a summary and discussion of the findings of the desk-based assessment.

1.2.7 As well as considering all archaeological sites within the development area it was decided, following discussions with the archaeological advisors to the planning authority (Development Management – Dyfed Archaeological Trust), that a 2km radius search area from the development area boundary was considered sufficient with which to evaluate impacts on



designated archaeological sites and elements of the historic environment (Scheduled Monuments, registered Historic Landscapes, registered Parks and Gardens, Grade I, II\* & II Listed Buildings). A 2km radius search area was also used to find recorded undesignated archaeological sites in order to provide sufficient overview of the nature of the areas heritage.

### 1.3 Abbreviations

- 1.3.1 All sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Sites recorded on the National Monument Record (NMR) held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) are identified by their National Primary Record Number (NPRN). Scheduled Monument (SM). Altitude is expressed to Ordnance Datum (OD). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

### 1.4 Illustrations

- 1.4.1 Printed map extracts are not necessarily reproduced to their original scale. North is towards the top of the page unless otherwise indicated.

### 1.5 Timeline

- 1.5.1 The following timeline (Table 1) is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text.

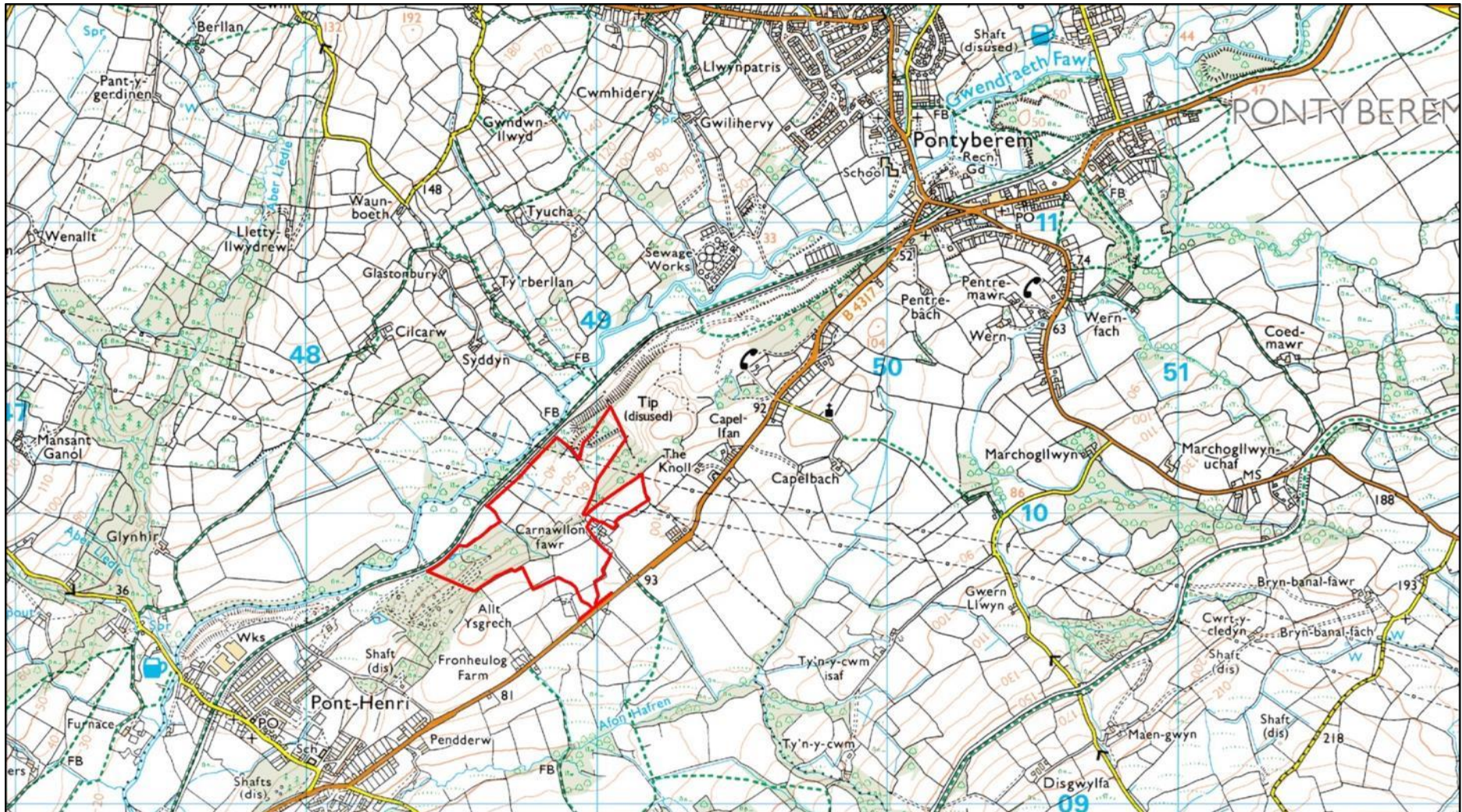
Period	Approximate date	
Palaeolithic –	c.450,000 – 10,000 BC	Prehistoric
Mesolithic –	c. 10,000 – 4400 BC	
Neolithic –	c.4400 – 2300 BC	
Bronze Age –	c.2300 – 700 BC	
Iron Age –	c.700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	Historic
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1086	
Medieval Period –	1086 – 1536	
Post-Medieval Period <sup>1</sup> –	1536 – 1750	
Industrial Period –	1750 – 1899	
Modern –	20th century onwards	

**Table 1:** Archaeological and Historical Timeline for Wales

<sup>1</sup> The post-medieval and Industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust

## **2 LOCATION, TOPOGRAPHY AND GEOLOGY**

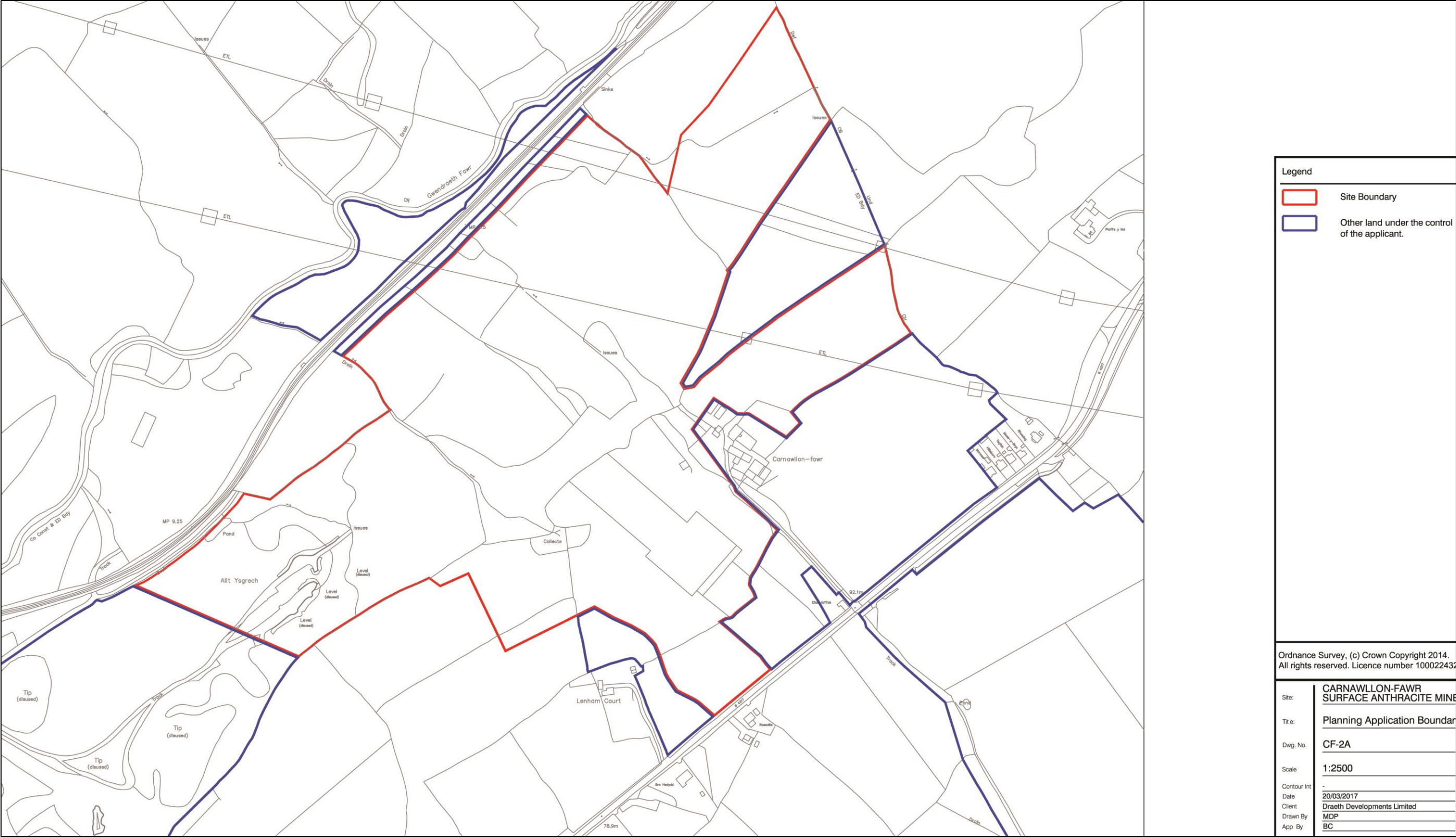
- 2.1 The proposed development site is located adjacent to Carnawllon Fawr, a farm within the Gwendraeth Valley just northwest of the B4317 road that links Ponthenri and Pontyberem (Figures 1 and 2). The site is centred approximately at NGR SM 4884 1000, stretching roughly southwest to northeast along the valley up to 0.9km at its widest point. Ponthenri lies c.0.5km southwest of the site boundary and Pontyberem is c.1.2km to the northeast.
- 2.2 To the northwest the site is bounded by the Gwendraeth Fawr River and the former Burry Port and Gwendraeth Valley Railway line. The western part of the area and part of the northeastern-most corner is under woodland and scrub. Much of the remainder is now wild meadow land having not been grazed for a few decades. South of the farm the fields are under pasture, currently grazed by horses.
- 2.3 The proposed coal extraction site occupies an area of c.26 hectares. Height varies from c.30m above OD near to the valley bottom along the northwest boundaries of the site to c.95m above OD in the easternmost area.
- 2.4 The bedrock at the site is Mudstone, Siltstone and Sandstone of the South Wales Middle Coal Measures Formation: sedimentary bedrock formed in the Carboniferous Period. There is surface geology in the northwest lower part of the site: Till/Diamicton of Devensian age.



**Figure 1:** Map showing the location of Carnawllon Fawr, Ponthenri, Carmarthenshire, Pembrokeshire. The proposed development site is outlined in red. Llanelli is 8 miles south and Carmarthen is 13 miles northwest.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930





**Figure 2:** Plan of the proposed coal extraction site (outlined in red), supplied by the client





**Figure 3:** Detailed plan of the proposed development site and proposals, supplied by the client



### 3 HISTORICAL, LANDSCAPE AND ARCHAEOLOGICAL BACKGROUND

#### 3.1 Archaeological and Historic Background

3.1.1 Palaeolithic archaeology is not found *in situ* in this part of Carmarthenshire because the last ice sheets eroded away all man-made remains in their path. No Mesolithic sites have yet been found on this side of the River Tywi, although more and more sites are being identified through fieldwork in other parts of the county and throughout Wales. There are currently about one hundred known Neolithic sites in Carmarthenshire, the majority of which are stone burial chambers and the findspots of stone axe heads. Within 10km of the proposed development site the known Neolithic remains consist of two burial chambers, two long barrows and five findspots (all for stone axes). Evidence for occupation in the Bronze Age is far more abundant in the county and further afield. As is typical throughout the region, the proposed mine is located in an area dotted with standing stones and funerary barrows. None are closer than 1km to the site boundary.

3.1.2 Evidence for human activity in the Iron Age is even more common and is probably represented within the proposed site boundary by a defended enclosure, by far the most common site type known from this period. Romano-British remains are scarcer but a Roman road ran from Loughor to Carmarthen, probably passing not far south of Ponthenri, and coins and pottery have been found near the village.

3.1.3 The probable Iron Age defended enclosure mentioned above is known as Carnawllon Fawr, as is the farm located just to the east. Carnawllon Fawr holds the distinction of being the only place to bear the name of the former commote of Carnawllon (Jones 1980), a commote being a geo-political region of Early Medieval Wales. The name can be traced back as far as c.1100 where it is recorded as *Cornoguatlaun* in the *Vitae Sancti Cadoci*. The boundaries of the commote were recorded sometime between 1609 and 1613 as:

*.....begineth at the entrance of a river called Dulais into another called Lougher, and so boundeth from that place upon the parishes of Penbrey and Llangendeirne as far as the bridge called Ponty-Berran, and so forwards by the side of the river called Gwendraeth Fawn to Blaenhirwen, and so from a place called Llidiad Hirwen all along Mynydd Mawr as far as Llech-yffin, and there hence to a place called Cwm-y-Rhosdu, and so to a river called Cwm Gwili, meeting with a brook called Fferrus, leading directly to the river called Lougher, and so the said river Lougher bounds' till it meets the river called Dulais aforesaid.*

3.1.4 It is possible that Carnawllon Fawr retained the name of the commote due to it once being the location of its caput (principal centre of a commote). It is also known that a castle was once located within 'Carnwyllion' commote, destroyed by Rhys Ieunc in 1215. It is not known where this castle was located and potentially it lies at Carnawllon Fawr, perhaps in the same place as the probable defended enclosure.

3.1.5 Carnawllon Fawr once formed part of the Carnawllon Estate, which is known to have been in existence by 1780, comprising 407 acres, and was part of the substantial Golden Grove Estate (Jones 1980). It is known that the lands of Carnawllon have been exploited for coal since at least 1606 when a twenty-one year lease was granted to Phillip Vaughan on the 25<sup>th</sup> June to '*mine or quarry the fields of Carnawllon*'. On July 3<sup>rd</sup> 1725 a further lease was granted by:

*.....John Vaughan Esq., Shenfield Place, Essex to Walter Rees, gent, for 99 years to extract, sink, dig, loose or cart away at Carnawllon for eight pounds a year at or in the Town Hall of the County of the Borough Of Carmarthen on May Day and Michaelmas Day, also six shillings duty and a further sum of thirty*

*shillings or the best beast at the choice and election of the said John Vaughan. All colliers, workmen, labourers and other persons in his or their power to grind all the family corn at the mill of the said John Vaughan at Capel Evan. No damage is to be done to grass, corn or hay of tenant, or if so, payment be made.*

The specific inclusion of colliers and workmen within the terms of the lease suggests coal extraction was a fairly substantial activity.

- 3.1.6 By the latter part of the 19th century it is known that four collieries were operating between Ponthenri and Pontyberem, these being Ty'n y Waun, Pont Henry, Capel Ifan and Pentremawr.
- 3.1.7 The following information is taken from the Welsh Coal Mines website ([www.welshcoalmines.co.uk/Carm/Pontyhenry.htm](http://www.welshcoalmines.co.uk/Carm/Pontyhenry.htm)): The Ponthenry Colliery Company was established in 1865. Six seams of coal were worked, Big vein, Felin, Gwendraeth, Braslwyd, Pumquart and Gras. The Pumquart seam was notorious for being subject to horrendous outbursts of fine coal dust and methane gas making the mine one of the most dangerous in the UK. A total of 37 outbursts were recorded which claimed the lives of 10 miners<sup>2</sup> over a number of years. The Inspector of Mines records that 192 men were employed at the site in 1896, in 1904 504 were employed, and in 1923 a list records 634 men working at the Ponthenry and Glyhir Slant mines. The colliery later became part of the Amalgamated Anthracite Combine. In 1936 the mine was closed, with extensive reserves still said to be present below ground – but the mine had become too dangerous to work.
- 3.1.8 Following the closure of the colliery it became derelict and the subject to illegal tipping. Some areas reverted to farmland but much is now covered in woodland and scrub.
- 3.1.9 A major pipeline for carrying liquefied natural gas was constructed in 2008 and crosses the proposed mining site to the southwest of Carnawllon Fawr Farm in a northwest-southeast direction.

## 3.2 Historic Landscape Areas

- 3.2.1 The proposed development site does not lie within the boundaries of any Historic Landscape Character (HLC) areas recorded in the Register of Landscapes of Outstanding Historic Interest in Wales (Cadw 1998). The nearest HLC area is Morfa Bach (No. 174), which at its closest lies 4.5km away to the southwest.

### **LANDMAP**

- 3.2.2 The proposed development lies within landscape areas recorded on the National Resources Wales (NRW) LANDMAP database. LANDMAP is a GIS (Geographical Information System) based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated in a nationally consistent data set.

---

<sup>2</sup> The following list of miner's who lost their lives at the colliery due to the outburst phenomena: is from the Welsh Coal Mines website:

William Thomas Williams – 27<sup>th</sup> February 1920

Thomas Evans and Edwin James Williams – 14<sup>th</sup> March 1923

George Buck, Samuel Philip Evans, William Henry Evans, William David Jenkins and Stanley Morris – 3<sup>rd</sup> September 1924

David John Lewis and Richard John Williams – 10<sup>th</sup> July 1928



3.2.3 The new mine would lie within two historic landscapes. The fields immediately northeast, south and southwest of Carnawllon Fawr farm lie within a historic landscape named 'Pontyberem Land Reclamation' (Ref: CRMRTL39515). It is classified as a mostly modern agricultural landscape created following open cast coaling operations, and hence assigned low historic value. The remainder of the proposed site lies in the 'Llanelli and Mynydd Mawr Railway' historic area (Ref: CRMRTL39504), which is of high value because it is a good example of a Carmarthenshire agricultural landscape and contributes to the general historic landscape character of the wider region. It is recorded that the area has a rich association with the coal mining traditions of Carmarthenshire.

### 3.3 Historic Parks and Gardens

3.3.1 There are no Registered Historic Parks and Gardens within 2km of the boundary of the proposed development site, and there is no Registered Historic Park or Garden further afield whose setting would be affected by the development.

### 3.4 Scheduled Monuments (Figure 4)

3.4.1 There is one Scheduled Monument within 2km of the proposed development site: The 'Remains of Blast Furnace at Pont Henry' (No. CM227). It is located just west of Ponthenri, 1.15km southwest of the site. Originating in the seventeenth century, this single charcoal blast furnace is still intact apart from the roof. The walls are about two metres thick, with possible doorways in the south and eastern walls. Outbuildings associated with the furnace lie to the southwest and southeast, probably dwellings and workshops for the workers. The setting of this monument will not be impacted upon by the proposed mining activities as it is not within line of sight.

3.4.2 There is no Scheduled Monument further afield whose setting would be impacted upon by the development.

### 3.5 Listed Buildings (Table 2; Figure 4)

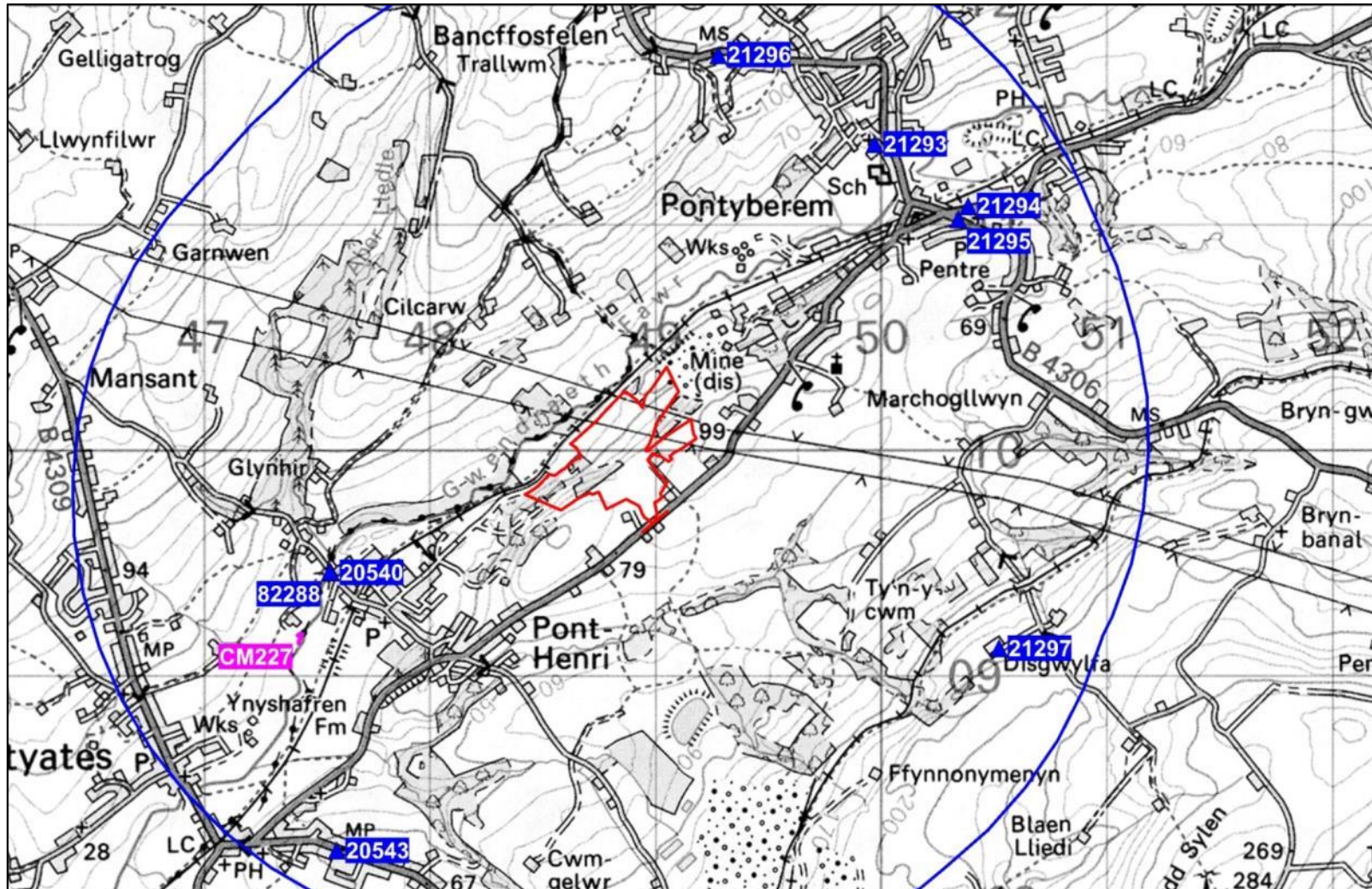
3.5.1 There are no Grade I or II\* buildings within 2km of the site boundary, and none further afield whose setting would be affected by the development.

3.5.2 There are eight Grade II Listed Buildings within the 2km study area. They all lie between 1km and 1.6km away. None of them lie within the proposed opencast boundary and none of them would be intervisible with the proposed mining operations.

LB No.	PRN	Name	Summary	Period	NGR
20540	61068	Pont Henri	Bridge	Post-Medieval	SN4755909455
20543	61070	Milepost at Pontyates	Milepost	Post-Medieval	SN4758508222
21293	16371; 61123	Caersalem Independent Chapel	Built in 1816, rebuilt in 1837 and rebuilt again in 1884. The present chapel, dated 1884, is stone built in the Classical style with a gable entry plan, two storeys and tall round headed windows.	Post-Medieval	SN4997011356

21294	61124	Memorial Hall	Public hall	Post-Medieval	SN5038411082
21295	61125	Milestone in Pontyberem village	Milestone	Post-Medieval	SN5034211024
21296	61126	Milestone in Bancffosfelen	Milestone	Post-Medieval	SN4927711751
21297	61127	Disgwylfa farmhouse	Farmhouse	Post-Medieval	SN5052109119
82288	61731	Pont Henri	Bridge	Post-Medieval	SN4755509459

**Table 2:** Grade II Listed Buildings within 2km of the boundary of the proposed development



**Figure 4:** Scheduled Monuments (purple) and Listed Buildings (blue) within 2km of the proposed development site (red). The blue line is the 2km search limit.

Reproduced from the Ordnance Survey 1:50,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

### 3.6 Non-designated Archaeological Sites (Tables 3-7; Figures 7-12)

- 3.6.1 The Historic Environment Record (HER) records two hundred and fifteen sites of archaeological interest, eighteen of which are also recorded on the National Monuments Record (NMR). A further nine sites are recorded only in the NMR (all of Post-Medieval and modern date).
- 3.6.2 One site exists within the boundary of the proposed development area. Carnawllon-Fawr Iron Age defended enclosure (PRN 5781; Table 3; Figure 7). A Post-Medieval cottage, 'Caernowllen Fach; Lenham Court' (PRN 21522; Table 5; Figure 10), is shown in Figure 10 as being inside the site but in fact lies just south of it. Another site, Carnawllon-Fawr farm (PRN 24941; Table 6; Figure 7) is sited next to the enclosure and just outside the development boundary, so it is possible that remains associated with it lie within the development area.
- 3.6.3 The eight Grade II Listed Buildings within the 2km search area are also recorded in the HER (Table 2), and the Scheduled Monument previously discussed is also represented.

#### **Bronze Age and Iron Age**

PRN	Name	Summary	Period	NGR
1705	Cilcarw	Burnt Mound	Prehistoric (Bronze Age)	SN498122
10721	Cae Carreg Wen	Standing Stone	Bronze Age	SN496114
10724	Garn Wen	Round Barrow	Bronze Age	SN467108
5781	Carnawllon-Fawr	A small promontory fort created by drawing a ditch across the narrow part of a rock projection that overlooks the valley below, It is situated at 85m above sea level, and encloses an area c.40m by 75m.	Iron Age	SN48850988
8461	Cwm y Gwyddel	Hillfort noted on Aerial Photograph. Several banks and ditches in the bottom of a marshy field. It is difficult to say whether or not they are of any archaeological significance as there are several streams running through the field and they may be the old courses of streams.	Iron Age	SN482118

**Table 3:** Known heritage assets of Pre-Roman date within 2km of the proposed development site (Figure 7)

- 3.6.4 The oldest sites in the study area recorded on the HER are represented by three Bronze Age and two Iron Age sites. All except one are over 1.1km away, and the other one is just outside the site boundary to the southeast, near Carnawllon Farm. This is the Iron Age hillfort of Carnawllon Fawr, which has been described in detail:

*On the west and north of the fort the scarp edge drops sharply to the Afon Gwendraeth Fawr. On the south and east the ground is relatively flat. The site has suffered from the effects of ploughing over the years and in 1985 Dyfed Archaeological Trust recorded that on the south and east the bank and ditch had been ploughed-out and were hardly visible. However, a bank and ditch were still recorded on the northwest and west, and on the west what appeared to be stone revetting could indicate the position of an entrance. In 1980 a former owner of Carnawllon Fawr Farm, recorded that his grandfather found several iron arrowheads in the bank above the ditch, but that they were not retained.*

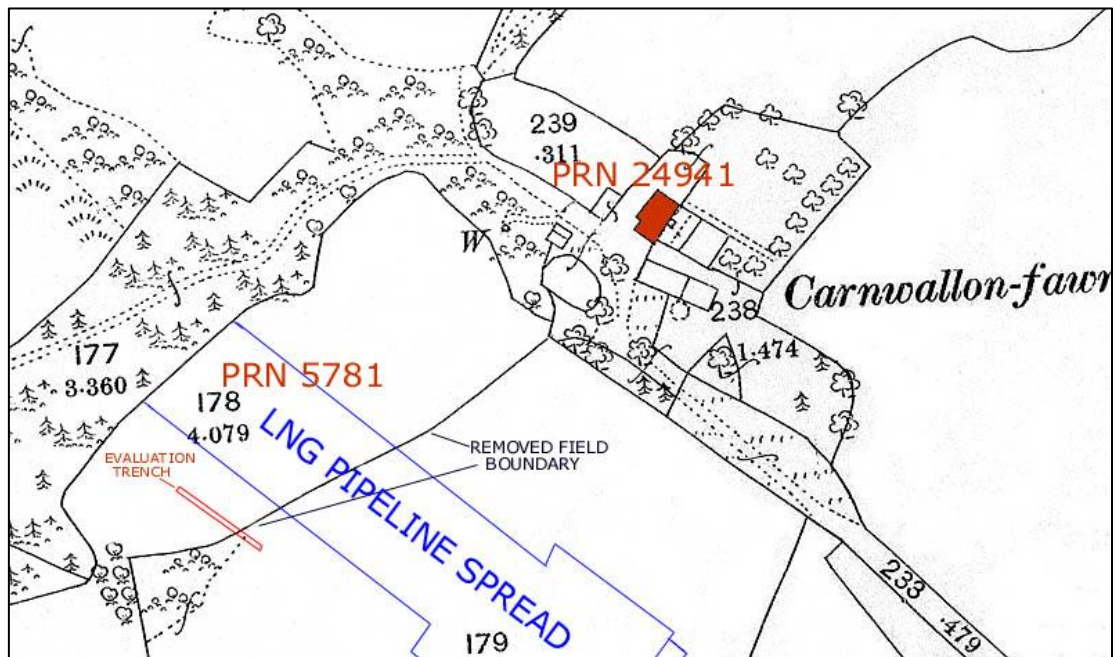
- 3.6.5 Previous archaeological work has taken place at Carnawllon Fawr in the form of two archaeological assessments (non-intrusive) and an evaluation (intrusive excavation). Neither the archaeological assessment by the Dyfed Archaeological Trust (Ratty 2008) nor those by Cotswold Archaeology (2005a; 2005b) identified any new archaeological features at the site. In 2007 the site was visited as part of Dyfed Archaeological Trust's Prehistoric Defended Enclosures project (Murphy *et al.* 2008). It was noted that the fort had largely been destroyed by the insertion of the pipeline. The western section of the site survived.
- 3.6.6 Archaeological Evaluation at the fort was undertaken by the Dyfed Archaeological Trust in 2010. Figure 5 shows the locations of the excavation trench and the gas pipeline in that part of the proposed development site. The results were summarised thus in the report (Meek and Ramsey 2010):

*A single trial trench was excavated .....across the southern boundary of the possible defended enclosure, through what was considered to be the likely location of a bank and ditch defence. The trench also targeted the interior of the putative monument in order to test for the presence of archaeological features or deposits associated with any occupation of the site. The line of the bank and ditch of the defensive works is thought to have been fossilised in a field boundary indicated on earlier Ordnance Survey maps, but which has subsequently been removed.*

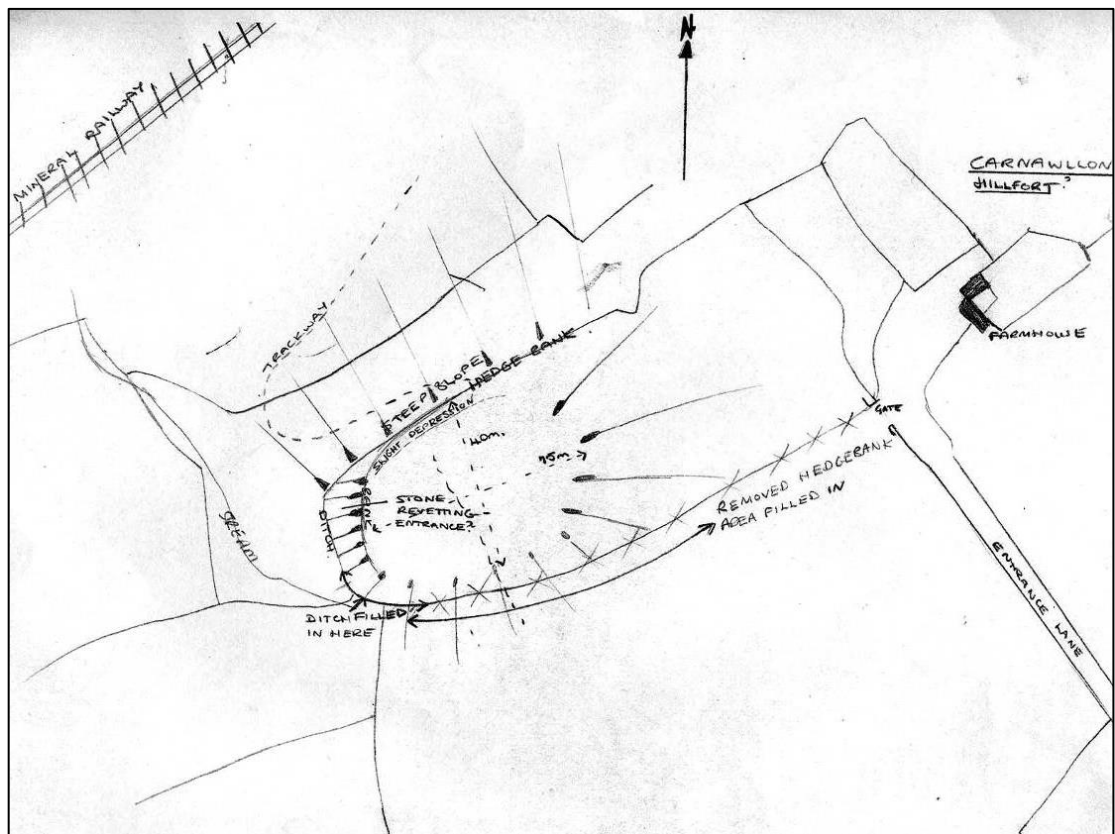
*The trial trench did confirm the presence of a large ditch at the site in the area where the possible line of the fort defences was expected. A dressed stone fragment of uncertain date was recovered from the upper fill of the ditch, which is considered to be of medieval or post-medieval origin. At the base of the ditch a modern plastic drainage pipe had been laid. It is assumed that the modern drainage pipe had been purposefully laid back within a ditch which represented the former line of the field boundary, as shown on earlier Ordnance Survey maps. The re-cutting of a field boundary ditch and laying of a drainage pipe in an existing channel is a common occurrence.*

- 3.6.7 A sketch map produced by Dyfed Archaeological Trust following a site visit in the early 1980s indicates the line of the possible hillfort around the natural escarpment, but also shows the line of an infilled ditch along the southern side of the possible fort (Figure 6). The illustration notes that the line follows a former hedgebank, but the potential for this later field boundary to have fossilised the line of the original fort boundary cannot be discounted. The line of this former field boundary is shown on the early edition Ordnance Survey maps (e.g. Figure 16), and was still extant as late as the publication of the 1968 edition of the 1:10560 Ordnance Survey map.





**Figure 5:** Adaptation of 1<sup>st</sup> edition 1:2500 scale Ordnance Survey map showing the locations of excavation trench and the gas pipeline



**Figure 6:** Copy of sketch plan of PRN 5781 made during an archaeological field visit in 1980

### **Medieval**

<b>PRN / NPRN</b>	<b>Name</b>	<b>Summary</b>	<b>NGR</b>
10975	Glynse; Glynhir	Settlement known from map evidence back to the 14 <sup>th</sup> century.	SN47520988
12676	Pontyberem St John's; Capel Ifan; St John's Chapel	Chapelry to Llanelli parish. It is believed to have medieval origins and is marked on William Rees' 1932 map. It had acquired burial rights by 1821, at least (the date of the earliest memorial in the churchyard). It was regarded as requiring to be rebuilt in 1833 by S. Lewis and had been entirely rebuilt by the later 19th century, as post-medieval PRN 1690, presumably on the same site, if not in the same location, as the medieval chapelry. There is no current evidence for an Early Medieval date.	SN498103
12706	Pontyberem	Bridge known from map evidence of the 14 <sup>th</sup> century.	SN501112

**Table 4:** Known heritage assets of medieval date within 2km of the proposed development site (Figure 7)

- 3.6.8 No Roman or Early Medieval sites are known to exist within 2km of the proposed site. Three sites are shown for the medieval period, but also see below for sites recorded as medieval/Post-Medieval. A bridge, presumably no longer with above ground remains, is recorded in Pontyberem. Closer to the proposed mining site are a church and a lost settlement, both about 0.8km away (in different directions).

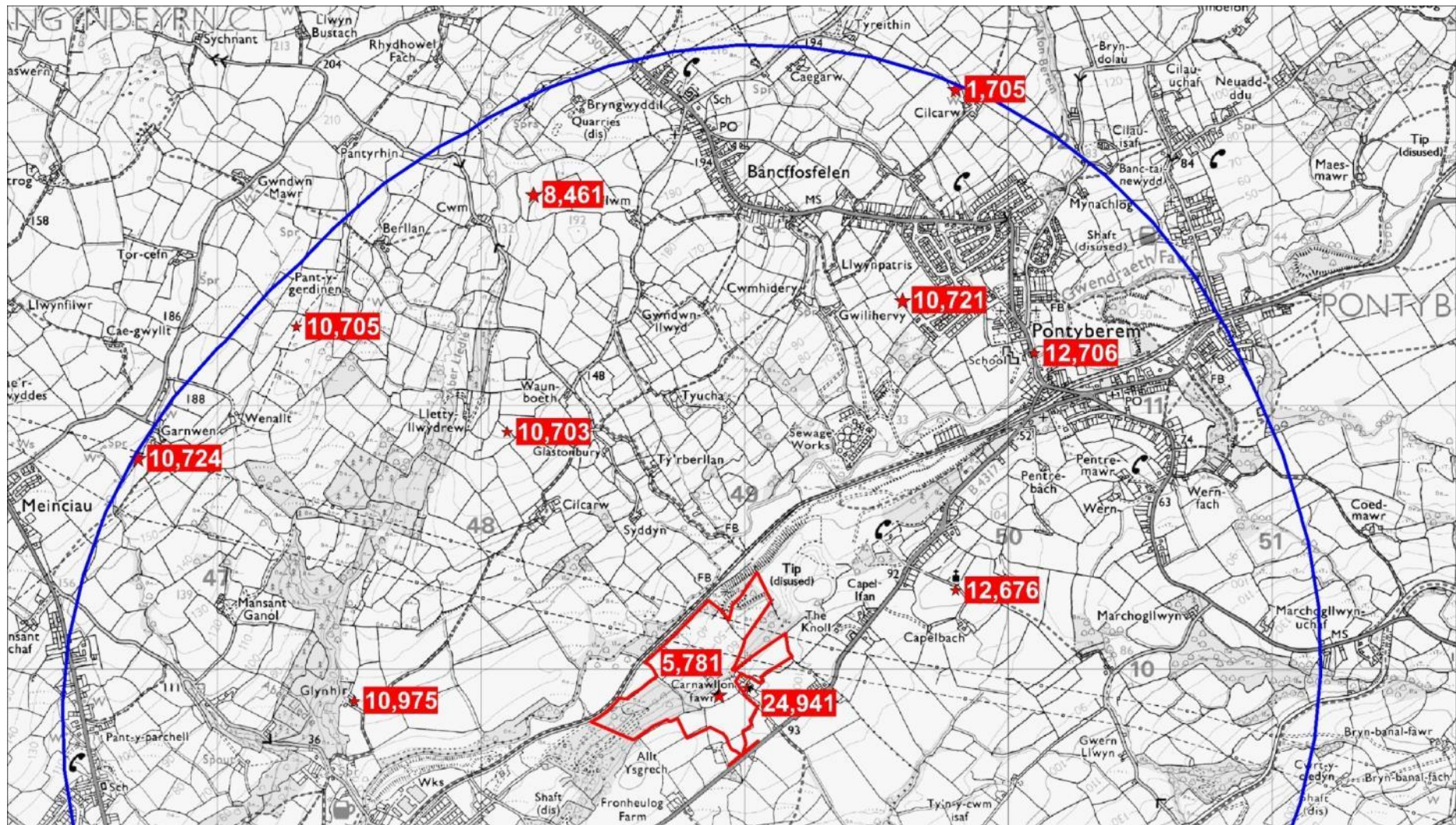
### **Medieval/Post-Medieval**

<b>PRN</b>	<b>Name</b>	<b>Summary</b>	<b>NGR</b>
6764 / 17585	Mynachlog	The name Mynachlog suggests that this house may once have belonged to Carmarthen Priory, however the building itself appears to be nineteenth-century	SN50291181
10703	Cae Bach y Lan; Lan Fach; Llain y Lan; Llan Issa	Church Land, from placename evidence	SN481109
10705	Lan Gan Ucha; Lan Ganol; Lan Fach	Church Land, from placename evidence	SN473113
24941	Carnawllon-Fawr	Manor House; farmstead	SN49010993

**Table 5:** Known heritage assets of medieval/Post-Medieval date within 2km of the proposed development site (Figure 7)

- 3.6.9 The HER records four sites of Post-medieval/medieval date, where they cannot be ascribed a more accurate date and probably span both periods. Two of these records are for land that is thought to belong to the church because its name includes 'lan'. These sites are both northwest of the site, more than 1km away on the hilltops.
- 3.6.10 Carnawllon-Fawr is the farmstead that the proposed development site has been named after. What is known of its history has already been described in Section 4.1. Mynachlog Fawr is another dwelling with potential medieval archaeology, located nearly 2km away on the far side of Pontyberem.





**Figure 7:** Known heritage assets of Bronze Age, Iron Age, Medieval and Medieval/Post-Medieval date within 2km of the proposed development site (red outline). The blue line is the 2km search limit.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

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

<b>PRN / NPRN</b>	<b>Name</b>	<b>Summary</b>	<b>NGR</b>
1690	St John's	19th century chapel, built on the site of probable medieval chapel.	SN49801034
4728 / 12699	St John's	Post-Medieval church dedicated to St John with embattled tower.	SN50401104
6765 / 17222; 31581	Coalbrook House	17-18th C. Later alterations. Rubble rendered. 2 storey. Plain tile roof.	SN50581114
8840 / 17555; 310477-8	Marchogllwyn	This farmstead site consists of a stone-built, ruinous, C17th gentry-house with adjacent, mostly C18/19th date farm buildings, a walled garden containing an arboretum, and the present ca 1937 house.	SN50701018
8943	Cwmllethryd	Historic home described by Francis Jones.	SN4911
9928 / 34048	Pont Henry	Remains of a single seventeenth century charcoal blast furnace.	SN47410917
16270		School	SN46550957
16271	Pontyates	Church marked on the OS 1st ed. Now roofless.	SN46540942
16273	Pont Henry	Bridge	SN47550948
16274	Calfaria	Chapel	SN47760928
16275	Felin Fach	Mill	SN47520927
16276 / 6459	Capel Bethesda	Built in 1838, rebuilt in 1874 and enlarged in 1888. The present church, dated 1874, is built in the Simple Round-Headed style with a gable entry.	SN47810922
16277		Coal Mine	SN4809
16278	Pont Cwmbwchle	Bridge	SN48320901
16279	Efail Fach	Blacksmiths Workshop	SN49110978
16281 / 6536	Jerusalem Baptist Chapel, Pontyates	Built in 1908 in the Simple Round-Headed style of the gable entry type. The Chapel closed as a place of worship in the early 1990's and has since been converted into a dwelling.	SN46890854
16283	Pont Yates; Pontiets	Bridge	SN46930847
16284	Pont Ynys Hafren	Bridge	SN47690864
16286 / 6533	Capel Noddfa	Built in 1908 in the Simple Round-Headed style of the gable entry type. The Chapel closed as a place of worship in the early 1990's and has since been converted into a dwelling.	SN47280817
16287	Ffynnonymenyn	Well	SN49980853
16365		Quarrying Complex	SN48281205
16366		Chapel	SN48711202
16370 / 12667	Libanus Chapel, Bancffosfelen	Built in 1910 in the Vernacular style with a gable entry plan, two storeys and round headed windows with florentine tracery glazing. By late nineteenth century had been converted for residential use.	SN49141172
16371; 61123 / 12668	Caersalem Welsh Independent Chapel, Pontyberem	Grade II Listed Chapel. Built in 1816, rebuilt in 1837 and rebuilt again in 1884. The present chapel, dated 1884, is stone built in the Classical style with a gable entry plan, two storeys and tall round headed windows.	SN49961136
16373	Capel Ifan Colliery; Pentremawr Colliery	Coal Mine	SN49491057
16374	Capel Ifan	Chapel	SN49431021
16823 / 12698	Soar Independent Chapel	Built in 1834 and rebuilt in 1903. The later chapel is built in the Classical style, with a gable entry plan, two storeys, a large arch in the facade and tall rounded headed windows.	SN50111135

PRN / NPRN	Name	Summary	NGR
16824	Pont y Berem	Bridge	SN50111118
16825	Tabernacle	Chapel	SN50131095
16826		School	SN50251104
16827		Vicarage	SN50571074
16828		School	SN50611094
17457		Church	SN46670892
21513	Pontyates School	School	SN47400825
21521	Bath and Elba	Two cottages which had been demolished before 1985.	SN49181020
21522	Caernowllen Fach; Lenham Court	Shown on tithe as "house and garden."	SN48900985
22010 / 6398	Pen-y -Bont Bryn Chapel	Built in 1834. This chapel later became the Sunday School when the new Capel Soar (NPRN 12698) was built in 1905.	SN50151170
22137		Quarry	SN471093
22152	Cae Quar	Quarry	SN495123
22153	Public House Yard etc.	Possible site of public house identified from tithe	SN499116
22157	Smiths Shop	Blacksmiths Workshop	SN468087
22158	Cae Ffynnon	Well	SN467088
22159	Llain Felin; Cae Melin	Mill	SN470087
22160	Cae Ffynnon	Well	SN477103
22161	Cae Odyn	Kiln	SN474106
22162	Llaun y Ffynnon	Well	SN4813210420
22163	Cae Melyn; Cae Melin; Glyn Felin	Possible site of mill identified from tithe	SN492108
22164	Cae Ffynnon	Possible site of well identified from tithe	SN492108
22165	Cae Ffynnon; Waun y Ffynnon; Waun y Ffynnon Fach	Well	SN488113
22166	Cae Efel	Possible site of smithy identified from tithe	SN493113
22167	Cae Ffynnon	Well	SN487118
22168	Smiths Shop	Blacksmiths Workshop	SN487121
22169	Cae Ffynnon	Well	SN491117
22170	Cae Ffynnon	Well	SN497123
22171	Llain yr Odyn	Possible site of kiln identified from tithe	SN498115
22174	Gorse Ffynnon	Well	SN474116
22175	Cae Pound	Pound	SN477115
22218	Llain Quar	Quarry	SN486115
22231		Public House	SN468087
22232	Cae Quarre	Quarry	SN480105
22234	Henfald	Sheep Fold,Pound	SN478109
22236	Cae Ffos Felin	Mill	SN4812
23439	Penhill	Cottage shown on 1922 6" OS map and apparently still extant.	SN46950986
23673	Cae Garw	Blacksmiths Workshop	SN49031227
23674	Cae-Garw-Fach	Cottage shown on 1907 6" OS map. Present condition unknown.	SN49041224

PRN / NPRN	Name	Summary	NGR
23949	Pontyates	School	SN47380824
23950	Pontyates	Blacksmiths Workshop	SN46860861
23951	Cae-Pontbren Colliery	Coal Mine	SN47450832
23952	Cae-Pontbren-Fach	Cottage shown on early 20th century maps.	SN47600854
23953	Ynys-Hafren	Lime Kiln	SN47800866
23954	Ynys Hafren	Quarry	SN48110880
23959	Pant-y-Ffynnon	Cottage shown on early 20th century maps.	SN48960963
23960	Pendderw	Lodge	SN48750952
23961	Cwm-Bwchle	Cottage shown on early 20th century maps.	SN48230901
23962	Pont-Henry	School	SN48010914
23963	Pont-Henry Colliery	Coal Mine	SN48300960
23964	Banc-yr-Hendy	Cottage shown on 1922 6" OS map. Present condition unknown.	SN47030990
23966	Greenhill	Cottage shown on 1922 6" OS map. Present condition unknown.	SN46470998
23967	Brondeg	Cottage shown on 1922 6" OS map. Present condition unknown.	SN46430973
23968	Pant-y-Parchell	Quarry	SN46570963
23969	Gwyn-Fryn	Cottage shown on 1922 6" OS map. Present condition unknown.	SN46540955
23971	Pontyates	Sunday School	SN46590939
23972	Cae-Garw	Cottage shown on 1922 6" OS map. Present condition unknown.	SN46590926
23973	Pen-Llain	Coal Mine	SN46700915
23974	Hendy	Cottage shown on 1922 6" OS map. Present condition unknown.	SN46880905
23975	Cae'r-Clovers	Tramway	SN47000900
24221 / 123870	Pentre Mawr	Cottage shown on early 20th century maps.	SN50561070
24225	Pontyberem	Mill Race	SN50461113
24226	Pontyberem	Inn	SN50171109
24227	Pontyberem	Bank (financial)	SN50311108
24228	White Thorn	Cottage shown on early 20th century maps.	SN50091111
24229	Pontyberem	Bank (financial)	SN50061128
24230	St John's	Dwelling	SN50401115
24231	Pontyberem	Public House	SN50101116
24232	Pontyberem	Public House	SN50061124
24233	Hen Soar	Stepping Stones	SN50101167
24234	Hen Soar	Stepping Stones	SN50111168
24236	Mynachlog	Stepping Stones	SN50201183
24237	Mynachlog Fach	Cottage shown on early 20th century maps.	SN5028911923
24268	Lletty'r-Dryw	Cottage shown on early 20th century maps.	SN50700937
24935	Capel Ifan; Evan	A country house that belonged to the Don Lee family in 1713.	SN49431021
24936 / 96342	Capel Ifan: Capel Bach	Major dwelling. In the 18th C part of the Vaughan of Golden Grove estate.	SN49821015
24969	Cilcarw; Cilycarw; Kyl y Caro	First reference to 'Kyl y Caro' in 1549. Major dwelling.	SN49911212
25027	Furnace	House. The Grundy family lived at Furnace in the early 17th C.	SN47350925
30604	Glan Gwendraeth Colliery; Evan's / Pontyates Colliery	Commenced at an unknown date, being drained by waterwheel drawing water through elmwood pipes. It was re-opened in 1855 by one William Evans, Alltycadno.	SN469085



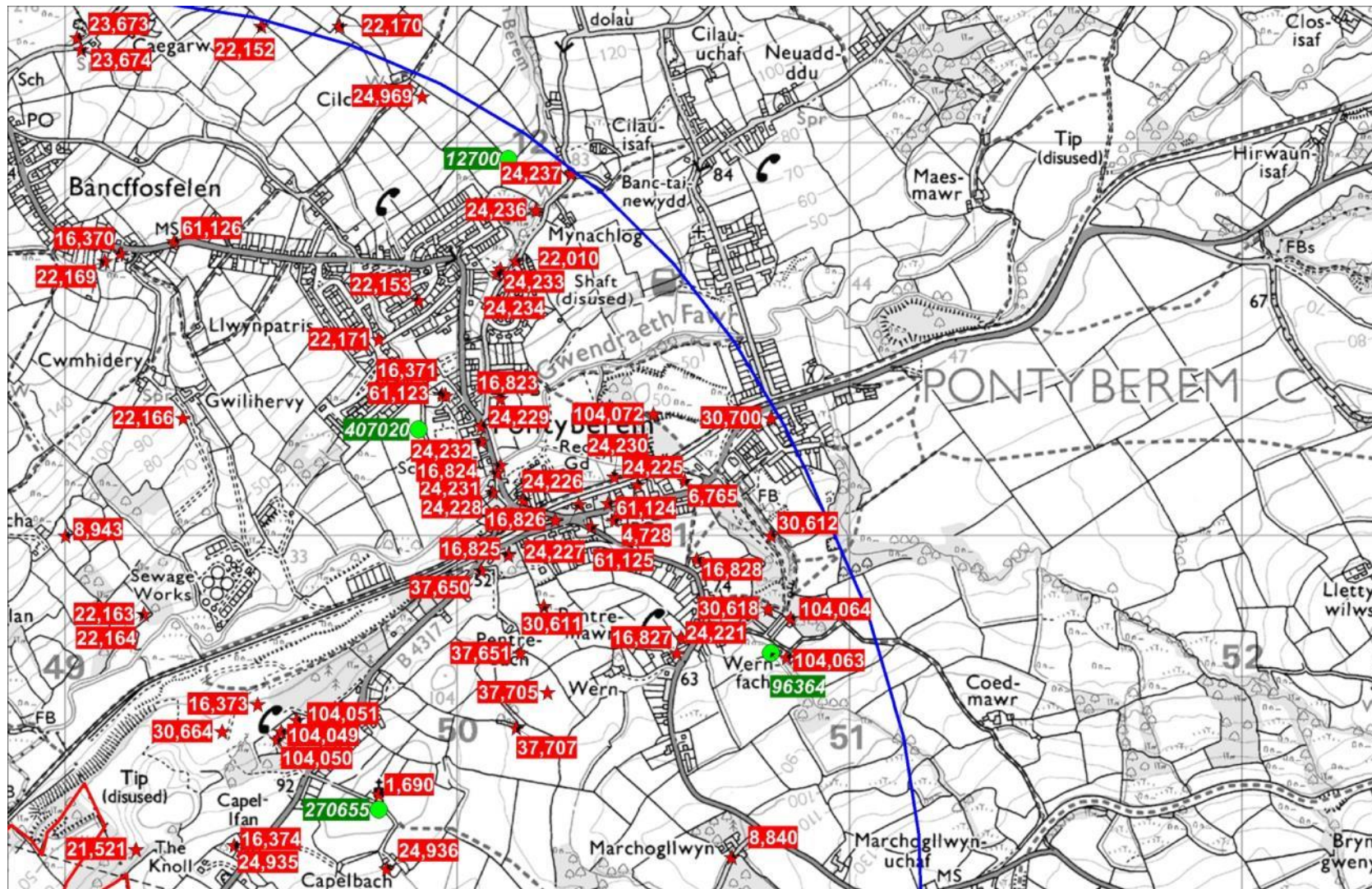
PRN / NPRN	Name	Summary	NGR
30606	Ffou Colliery; Ffoy Colliery	Opened c.1824 by Capt. Scott. Worked until the late 19th century under various owners	SN481081
30611	Old Pentremawr Colliery	Worked from c.1825-30. Closed after 1830, re-opened in 1870 by a Mr.Thomas Harris.	SN50221082
30612	Coalbrook Colliery; Pontyberem Collieries	First shown on a map of 1750. Owned by a J.Harries in 1833	SN508110
30616	Ty'n y Cwm Colliery	Working in 1880. Site may have been opencast.	SN50080957
30617	Ty'n y Waun Colliery	Small colliery adjacent to site of later Ponthenry Colliery (PRN 23963)	SN481096
30618	Pontyberem Colliery	Large, circular, stone built portal, possibly a drainage adit from old Coalbrook Colliery	SN5079310814
30653	Gwaith Bach	One of last pits to work at Pontiets. engine house converted to private dwellings	SN476083
30658	Y Rhos	Evidence of early coal workings, possibly bell pits and possibly qin-circles.	SN469093
30659	Ty-Gwyn Colliery; Everett's Colliery?	Closed 1930. Working by 1880.	SN486077
30664	Pentremawr Colliery Pithead Baths	Large, derelict building incorporating the colliery pithead baths, canteen, boiler house and chimney. Badly vandalised internally but appears structurally sound.	SN494105
30700	Gwendraeth Iron Works	Charcoal iron forge, working from 1670's.	SN508113
30707	Ffwrneis Pontiets	An early iron foundry, pre-dating the Ponthenri Foundry which stood less than 1km NNW	SN478085
30716	Ynyshafren Brickworks	Opened in 1843, closed in early 20th century. Site very overgrown and buildings levelled	SN477086
30749	Cwmgelwr Tramway	Shown as 'Old Tramway' on 1st edition OS map, linked a coal mine at Cwmgelwr with Cynheidre.	SN484081
30863	Ffou Colliery Tramway	1km long, served the Ffou Colliery and Ynyshafren Brickworks, linking them with Pontiets.	SN481082
36546	Bancffosfelen?	School on B4306 not on Tithe, OS 1813 and OS 1831. EMB 4/11/98.	SN48781216
36547	Capel Pisgah	Building adjacent to Pisgah Chapel PRN16366 – maybe a hall or a cottage.	SN48731200
36548	Bryngwyddil	Cottage on site adjacent to or occupied by farmstead.	SN48361214
36549	Cwm; Cwmgwiddel; Cwm Gwiddel	Cottage or farmstead.	SN48171213
36551	Trallwm	Farmstead on parish boundary with Pontyberem.	SN48561172
36552	Cwm	Farmstead.	SN48001169
36553	Berllan; Berllandywyll; Berllan Dywyll	Farmstead.	SN47631160
36557	Waun Boeth; Waunboeth		SN4829411018
36558	Pant Gerdinen; Pant y Cerddinen; Pant Cerdinnen; Pant y Gerdinen	Cottage	SN47501143
36561	Garnwen	Farmstead with nearby well named Garn wen.	SN46771085
36562	Wenallt	Farmstead, farm buildings not close together.	SN47071094
36563	Masant Ganol; Maensant; Tyn yr Yn; Maen Sant	Farmstead.	SN47041023
36564	Lletty Llwydrew; Lletty Llwyd Rhew; Lletty yr Llwidiw	Farm.	SN47941096
36565	Glastonbury; Glaston Beri	Roadside cottage.	SN48481082
36566		Roadside cottage.	SN48491078
36567		Roadside cottage.	SN48521074
36568	Cil Carw Fawr; Cil Carw Isaf; Cilcarw	Farmstead with orchard or garden and associated gatehouse.	SN48231058

PRN / NPRN	Name	Summary	NGR
36569	Syddyn; Syddyingwendraeth; Syddyn Gwerdraeth	Farmstead.	SN48591058
36570	Ty'r Gat	Probable gatehouse at entrance to Cil carw fawr.	SN48351087
36571	Cwm Lledllin	Cottage named on Tithe map.	SN4749810542
36572	Clynhir Fach; Clun Hir Fach	Cottage	SN47541024
36573		Unnamed cottage.	SN47771057
36575		Cottage.	SN4809311432
36577		Cottage or barn NW of Berllan.	SN47481168
36578		Cottage on boundary with Llanelli Parish.	SN4865710215
36579		Cottage SW of Maensant Ganol.	SN46801008
36580		Cottage N of Pont Henry possibly recorded on OS 1831.	SN47470969
36581	Llwynyreos	Cottage N of Pont Henry.	SN47370967
36582		Cottage N of Llwynyreos.	SN47350969
36583	Red Lion	Public House N of Pont Henry.	SN47430958
36584	Caerbont; Felin?	House N of Pont Henry unclear on OS 1813.	SN47480953
36585		Cottage N of Pont Henry unclear on OS 1813 and OS 1831.	SN47490959
36586	Bryn Yr Afon	Cottage N of Pont Henry not on OS 1905.	SN47430962
36587		House which appears derelict on OS 1907 with adjacent garden.	SN47270908
36588	Pen Rhas; Penrace; Pen y Rhas	House NW of Pont Henry.	SN47090964
36589		House NW of Pen Hill.	SN46870994
36590		Cottage NW of Penhill.	SN46900993
36591	Pant y Parchell; Pantypareau	Farmstead to E of B4309 N of Pont Yates.	SN46560978
36592	Rhas Cottage; Penlan	Cottage.	SN46870931
36593	Pen Llain	Cottage N of Pont Yates.	SN46850923
36594	Cae'r Clovers; Cae Clovers	Farmstead N of Pont Yates, E of B4309.	SN47050914
36598	Maes Teg Cottage	Cottage adjacent to B4309.	SN46450987
36616	Tyr Yets; Glan Gwendraeth	Farmstead named Tyr Yets on Tithe.	SN47040867
37650		Road or trackway shown on 19th century map.	SN50061091
37651		A footpath shown on 19th century maps.	SN50161070
37704		A well shown on the Ordnance Survey map of 1880.	SN50331003
37705		A well shown on the Ordnance Survey map of 1880.	SN50231060
37706		A possible cottage shown on the Ordnance Survey map of 1880.	SN5028210038
37707		A trackway shown on the parish tithe map of 1840.	SN50151051
49604		A footpath shown on Ordnance Survey map of 1880.	SN50241006
61068	Pont Henri	Grade II listed road bridge	SN4755909455
61070	Milepost at Pontyates	Grade II listed milepost	SN4758508222
61124	Memorial Hall	Grade II listed public hall	SN5038411082
61125	Milestone in Pontyberem Village	Grade II listed milestone	SN5034211024
61126	Milestone in Bancffosfelen	Grade II listed milestone	SN4927711751
61127	Disgwylfa Farmhouse	Grade II listed farmhouse	SN5052109119
61731	"Pont Henri (partly in Llanelli Rural Community)"	Grade II listed bridge	SN4755509459

PRN / NPRN	Name	Summary	NGR
100187	Glyn	Probable farm buildings recorded on the 1880 1st edition Ordnance Survey map	SN49500826
100188		Section of railway running between SN50540936 and SN49490674. Now dismantled.	SN49290898
100190	Llanelli and Mynydd Mawr Railway	Coal shaft recorded on the historic Ordnance Survey maps, still depicted on mastermap.	SN49610826
104031		Area of old coal pits and building recorded on the 1st ed. OS map.	SN47950870
104032		Coal shaft recorded on the historic Ordnance Survey maps, still depicted on mastermap.	SN47760868
104033		Old coal shaft recorded on the historic Ordnance Survey maps, not shown on mastermap.	SN47780881
104034		Old coal shaft recorded on the historic Ordnance Survey maps, still depicted on mastermap.	SN47800889
104035		Old coal pit recorded on the 1st edition OS map, not on subsequent mapping.	SN47850893
104038		Old coal pit recorded on the 1st edition OS map but not on subsequent mapping.	SN47090940
104039		Coal level recorded on the 1st edition OS map but not shown on subsequent maps.	SN47620952
104040		Old coal level recorded on the 1st edition OS map but not shown on subsequent mapping.	SN48060968
104041		Coal shaft recorded on the historic OS maps and still shown on mastermap.	SN48300944
104049		Building recorded on the historic OS maps, only in outline on mastermap, abandoned?	SN49551050
104050		Building recorded on the historic Ordnance Survey maps, presumed ruinous.	SN49541048
104051		Building recorded on the historic Ordnance Survey maps, presumed ruinous.	SN49591053
104063		Cottage and outbuilding recorded on the historic OS maps, presumed abandoned.	SN50841069
104064	South Pit	'South Pit' coal workings recorded on 1st edition OS map, including Engine House.	SN50851079
104072		Colliery works and buildings recorded on the 1st edition Ordnance Survey map	SN50501131
107951		Site of toll gate shown on the OS Old Series Map	SN4690808500
107954		Site of toll gate shown on the 1st edition OS Map	SN4876612140
108126		A milestone on the Carmarthen to Llanelli turnpike road.	SN4663509178
108127	Milestone	A milestone on the Carmarthen to Llanelli turnpike road.	SN4760508209
775	Incline Keepers Cottage, Kidwelly and Llanelli Canal	Cottage	SN47660919
777	Incline Hotel, Pont-Henri	Hotel	SN47660933
6539	Pisgah Welsh Baptist Chapel, Bancffosfelen; Pisgah	Built in 1872 and rebuilt in 1899. The present chapel, dated 1899, is built in the Simple Round-Headed style of the gable-entry type.	SN48741202
12700	Tabernacl Chapel (Baptist; Tabernacle), Pontyberem	Built in 1897 to the design of architect George Morgan of Carmarthen. It is built in the later Vernacular style with a gable entry plan and small pane round headed windows. By December 2015 the chapel was closed and up for sale.	SN50131196
96364	Gwendraeth Row	Terrace	SN508107
97270	Elim Pentecostal Church, Ponthenry Road, Pontyates	The date table implies that the Chapel was built after 1945. Status (2000): unknown	SN472082
270655	Home Guard Observation Post, Llangendeirne	Church tower allocated as an observation post to be manned by men of C Company, 3rd Carmarthen Battalion	SN498103
407020	Pontberem Village	Village	SN49901127

**Table 6:** Known heritage assets of Post-Medieval date within 2km of the proposed development site (Figures 6 and 7)

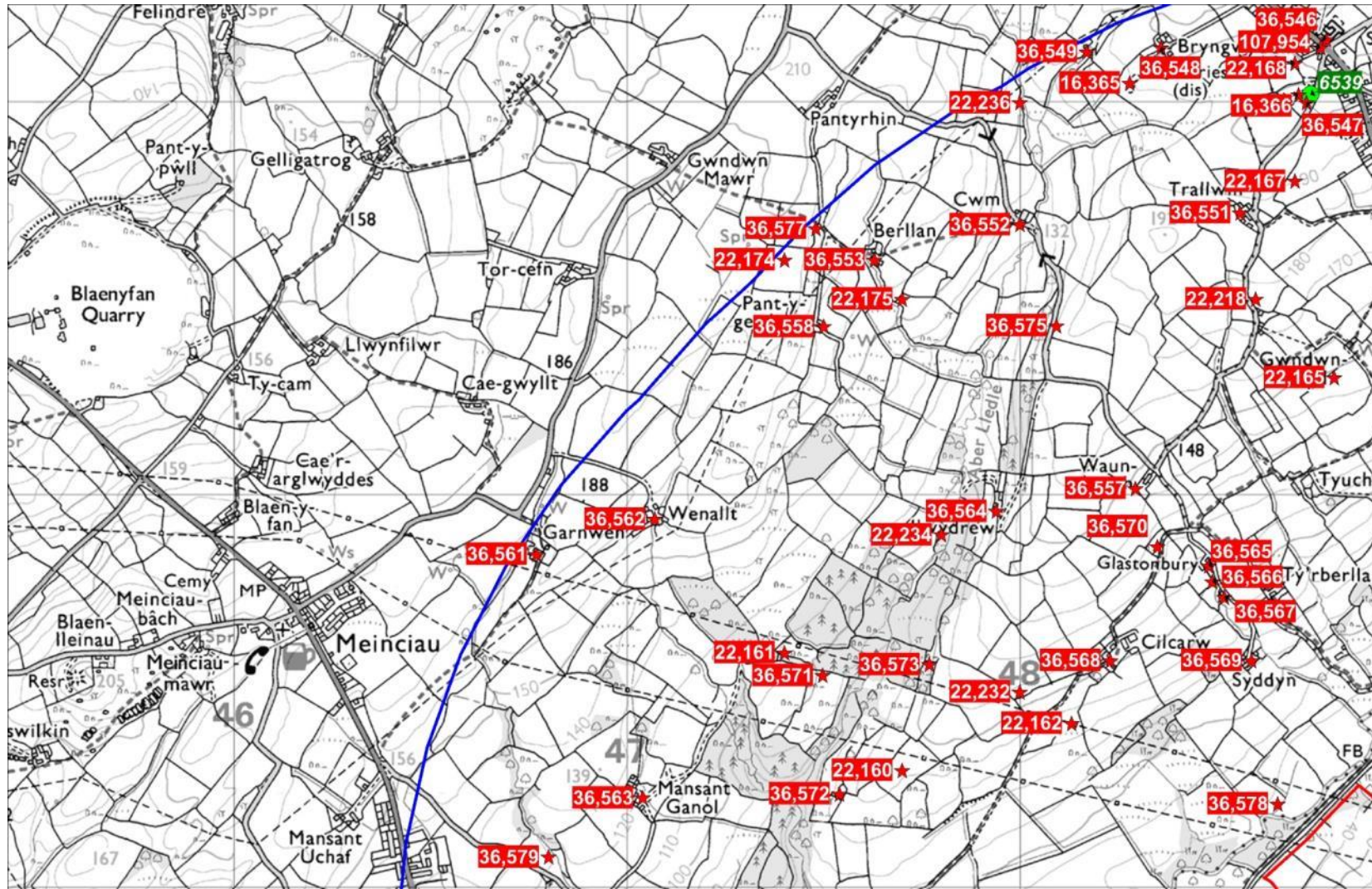




**Figure 8:** Known heritage assets of Post-Medieval date within 2km northeast of the proposed development site (red outline). The blue line is the 2km limit, HER records are in red, and records that are only in the NMR are in green.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

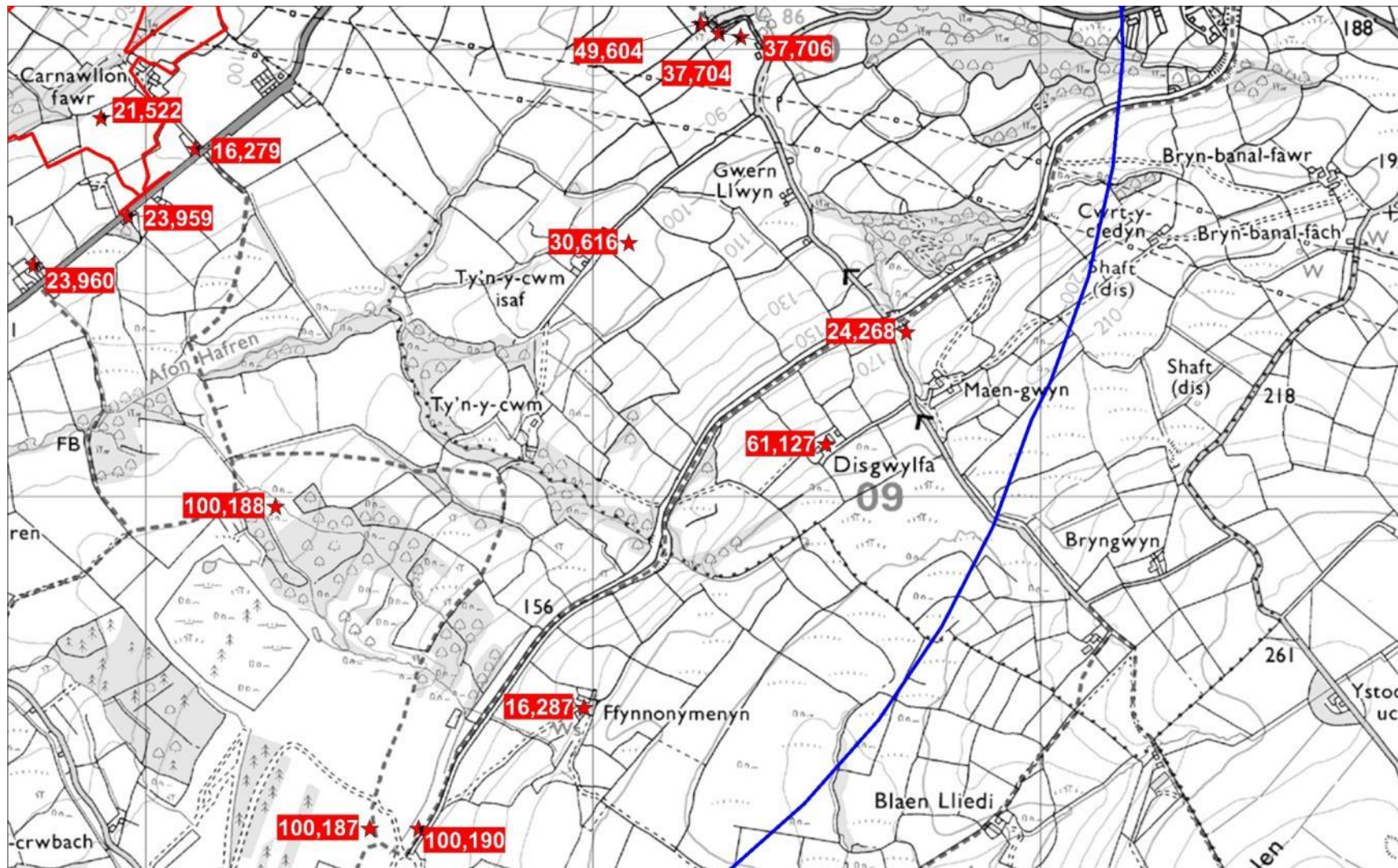




**Figure 9:** Known heritage assets of Post-Medieval date within 2km northwest of the proposed development site (red outline). The blue line is the 2km limit, HER records are in red, and records that are only in the NMR are in green.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

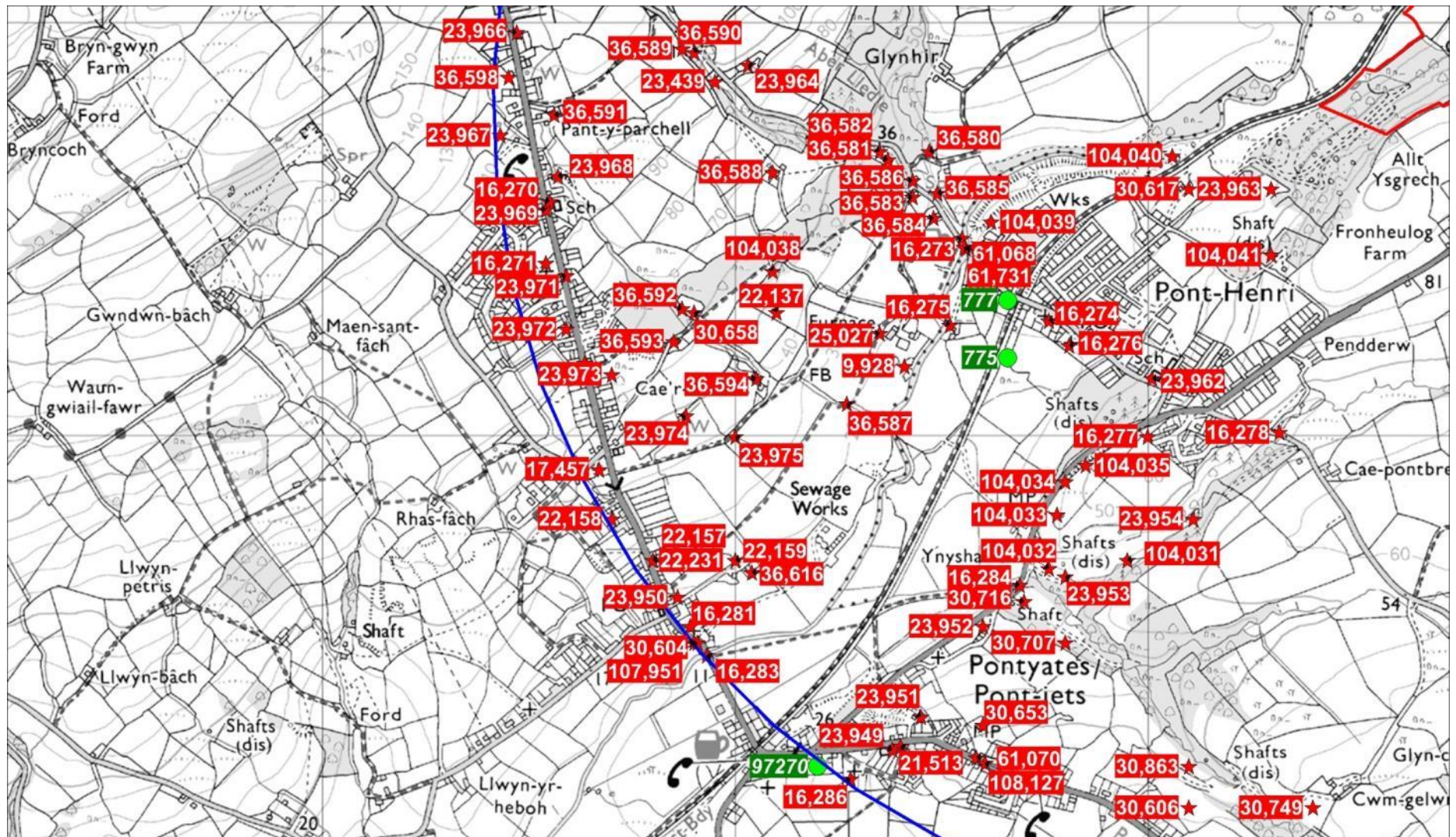




**Figure 10:** Known heritage assets of Post-Medieval date within 2km southeast of the proposed development site (red outline). The blue line is the 2km limit, HER records are in red, and records that are only in the NMR are in green.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930





**Figure 11:** Known heritage assets of Post-Medieval date within 2km southwest of the proposed development site (red outline). The blue line is the 2km limit, HER records are in red, and records that are only in the NMR are in green.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930



3.6.11 The Post-Medieval record is dominated by residences, and features of the coal industry and agriculture. Also prominent are chapels and other common town and village buildings. None of the sites are within the boundary of the proposed mining operations. A cottage, 'Caernowllen Fach; Lenham Court' (PRN 21522; Table 5; Figure 9), is shown in Figure 9 as being inside the site but in fact lies just south of it.

### Modern

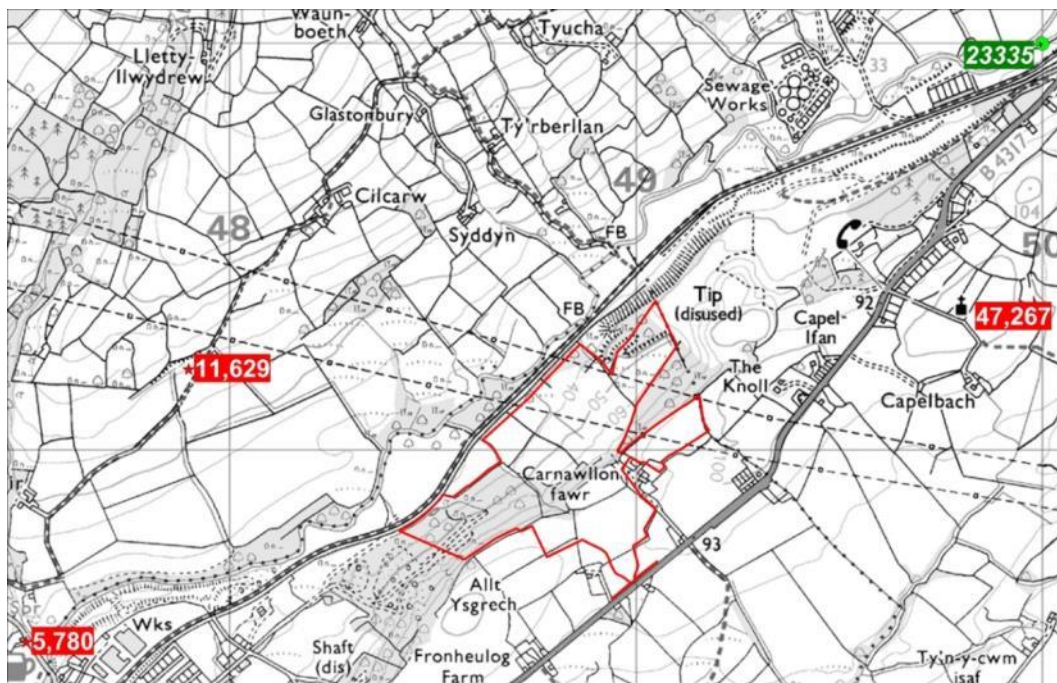
PRN / NPRN	Name	Summary	NGR
5780	Caer Bont	Bridge	SN47500953
47267		A footpath shown on the Ordnance Survey map of 1880.	SN49981036
23335	Pontyberem Memorial Hall and Institute	Working Mens Institute; Miners Institute	SN5038411082

**Table 7:** Known heritage assets of modern date within 2km of the proposed development site (Figure 12)

3.6.12 Three records dating to the modern period are recorded in the HER and NMR: A bridge, a footpath (strictly speaking of Post-Medieval date) and a Working Men's institute.

### Unknown

3.6.13 One record exists in the HER for the study area for which the date is unknown: PRN 11629; Eil-Carw Fawr. All that is recorded is that it is an earthwork known from documentary evidence. It is located roughly 1.5km northeast of the proposed development site (Figure 12).



**Figure 12:** Known heritage assets of modern and unknown date within 2km of the proposed development site (red outline). The blue line is the 2km limit, HER records are in red, and records that are only in the NMR are in green.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

### 3.7 Other archaeological finds

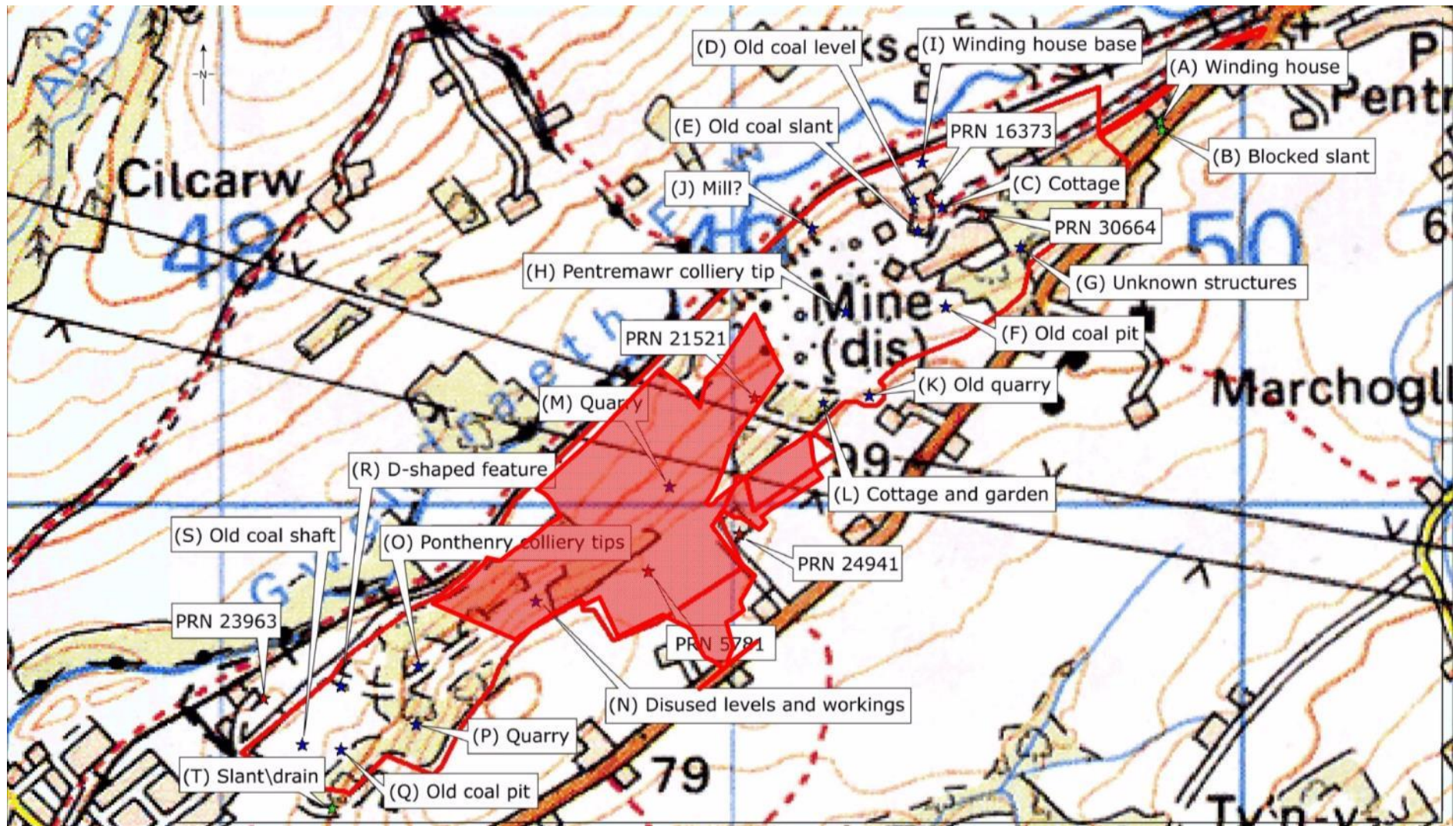
3.7.1 No finds have been reported to the Portable Antiquities Scheme within 2km of the proposed development site.

3.7.2 During the previous desk-based assessment (Ratty 2008), twenty further sites were identified (Table 8; Figure 13). Only three of these sites are not remains of the coal industry (but may have been built because of it): a mill and two cottages. Only two of the sites lie within the current proposed boundary: M – a quarry, and N – coal levels and workings.

Site ID	Site type	Summary	Evidence	NGR
A	Winding House	Built of red engineering brick, survives to full height and retains its roof.	Site Walkover Survey	SN4983010750
B	Slant	Blocked slant probably associated with the adjacent possible winding house.	Site Walkover Survey	SN4984210740
C	Cottage	Unnamed cottage marked on the 1842 Tithe Map for Llanelly Parish and listed as being owned by Earl of Cawdor and occupied by David Morris.	Maps	SN4941010570
D	Coal Level	Marked on the 1 <sup>st</sup> and 2 <sup>nd</sup> edition Ordnance Survey maps. Probably related to Capel Evan - Pentremawr Colliery.	Maps	SN4935010590
E	Coal Slant	Probably part of Capel Evan Colliery. Depicted on 1st edition Ordnance Survey map of 1880.	Map	SN4936010535
F	Coal Pit	Depicted on 1 <sup>st</sup> edition OS Map of 1880 as Old Coal Pit. Marked on 2 <sup>nd</sup> ed. OS map as Slant.	Maps	SN4942010389
G	Structures	Three structures marked on the 1 <sup>st</sup> edition OS map. Four structures 2 <sup>nd</sup> edition.	Maps	SN4956010504
H	Colliery Tip	First appears on the 2 <sup>nd</sup> edition OS map.	Site Walkover Survey	SN4922010376
I	Winding House Base	Substantial stone base. Overlooks former Burry Port & Gwendraeth Valley Railway line.	Site Walkover Survey	SN49370670
J	Mill	Building marked on the 1842 Tithe Map. 'Hen-felin' on the 2 <sup>nd</sup> edition OS map.	Maps	SN4916010541
K	Quarry	Old quarry marked on 1 <sup>st</sup> and 2 <sup>nd</sup> edition Ordnance Survey Maps. Probably out of use prior to 1880.	Maps	SN4927010214
L	Cottage and Garden	Marked on Tithe Map, but not on 1 <sup>st</sup> or 2 <sup>nd</sup> edition Ordnance Survey maps.	Maps	SN4918010201
M	Quarry	Quarry marked to northwest of Carnawllon Fawr on 2 <sup>nd</sup> edition Ordnance Survey map.	Maps	SN4888010035
N	Levels and Workings	Disused coal mining levels and workings.	Site Walkover Survey	SN4862909809
O	Colliery Tips	Series of substantial tips probably relating to Ponthenri Colliery. Now mostly tree covered.	Site Walkover Survey	SN4839909681
P	Quarry	Disused quarry in woodland.	Site Walkover Survey	SN4838909569
Q	Coal Pit	Marked on 1 <sup>st</sup> edition Ordnance Survey map.	Maps	SN4824909519
R	D-shaped Feature	D-shaped feature marked on 2 <sup>nd</sup> edition OS, probably related to Pont Henry Colliery.	Maps	SN4824909640
S	Coal Shaft	Marked on 2 <sup>nd</sup> edition Ordnance Survey map.	Maps	SN4816909529
T	Slant/ Drain	Arched engineering brick constructed slant or drain in a good state of preservation.	Site Walkover Survey	SN4822909405

**Table 8:** Archaeological sites identified during the 2008 desk-based assessment





**Figure 13:** Map of archaeological sites identified during the 2008 desk-based assessment (the shaded red boundary is the new application area and the thin unshaded red boundary is the previous site outline)

Reproduced from the Ordnance Survey 1:50,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930



### 3.8 Aerial Photography and LiDAR

- 3.8.1 Meridian Airmap aerial photos of the 1950s do not cover the site, but RAF aerial photos of 1946 were available and one of them that covers the proposed development site is shown in Figure 14. There is less forest cover than there is today, making spoil heaps at the east and west of the site much more visible. Marks visible in the fields are likely to indicate former mining endeavours. No other archaeological features are readily identifiable.
- 3.8.2 Modern aerial photography shows many circular parch marks and crop marks that are most likely to represent coal pits or shafts that have been filled in and hitherto unrecorded.
- 3.8.3 LiDAR imagery was also viewed for the proposed site area. In the west of the site, where levels and workings were found during the previous desk-based assessment, many earthworks are visible that seem presumably represent coal levels and tips.



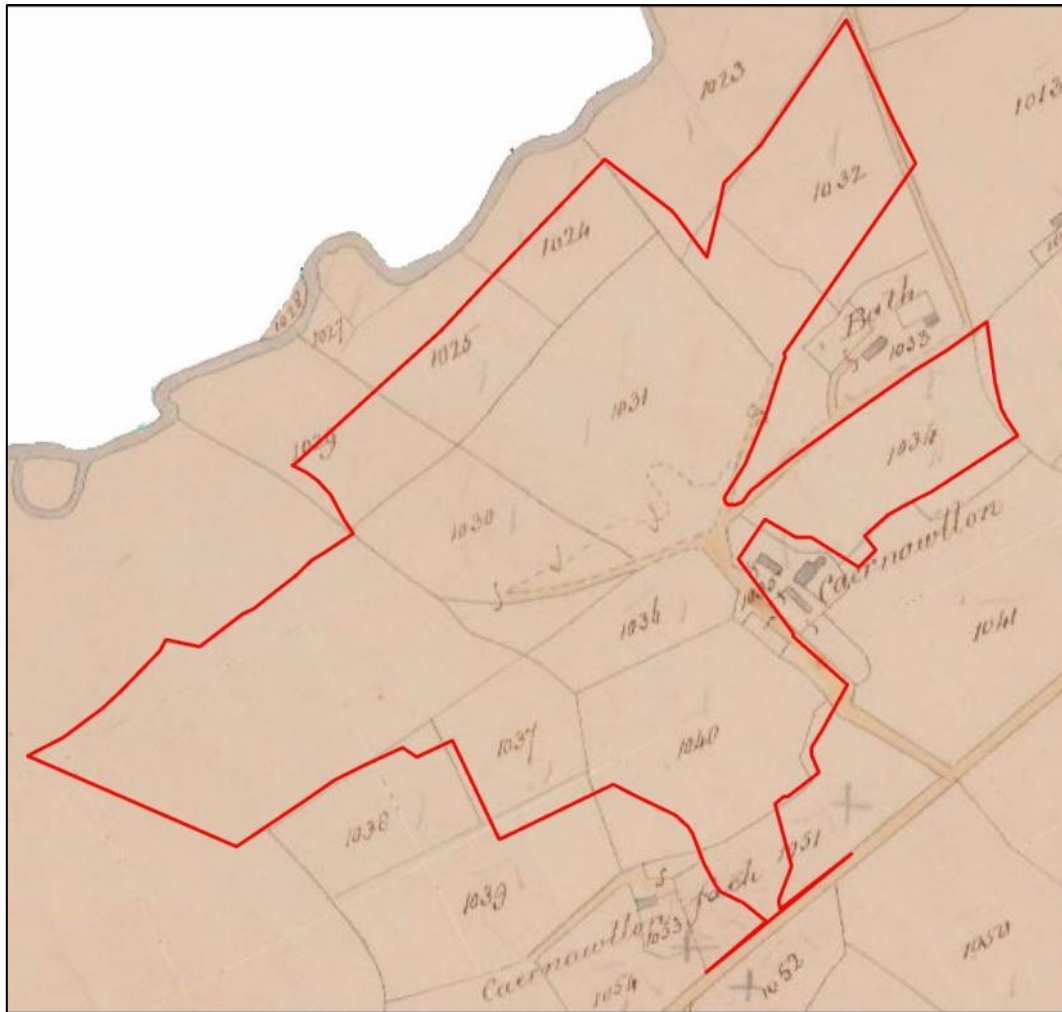
**Figure 14:** RAF Aerial Photograph of 1946 with Carnawllon-Fawr farm half way up the image along its right-hand edge

### 3.9 Historic Mapping

- 3.9.1 The Llanelli Parish Tithe Map of 1842 (Figure 15) depicts Caernawllon, Caernawllon fach and Bath as the only dwellings in the study area. 'Caer' means fort in Welsh and is often associated with defended enclosures, whereas the later form of the name, 'carn,' means cairn. It seems likely that carn in this case is a contraction of 'caer yn' (fort in).
- 3.9.2 Table 9 gives details of each field as recorded in the 1842 apportionment to the tithe map. Many of the field names are based on their natural setting or their position in relation to the houses but some refer to potential archaeological sites. There are two fields named 'Croft,' which is a type of small dwelling, and one field may indicate the position of a former mill. Another field is named after a barn and a further after a bridge, which may have spanned the Gwendraeth Fawr river, or possibly just crossed to the island referred to and marked on the map. Field numbers 1036 and 1039 of these sites give potential for archaeology within the boundary of operations and are also marked in Figure 20. In the westernmost part of the map there are no enclosed fields and field names in the vicinity suggest that this open area is woodland.

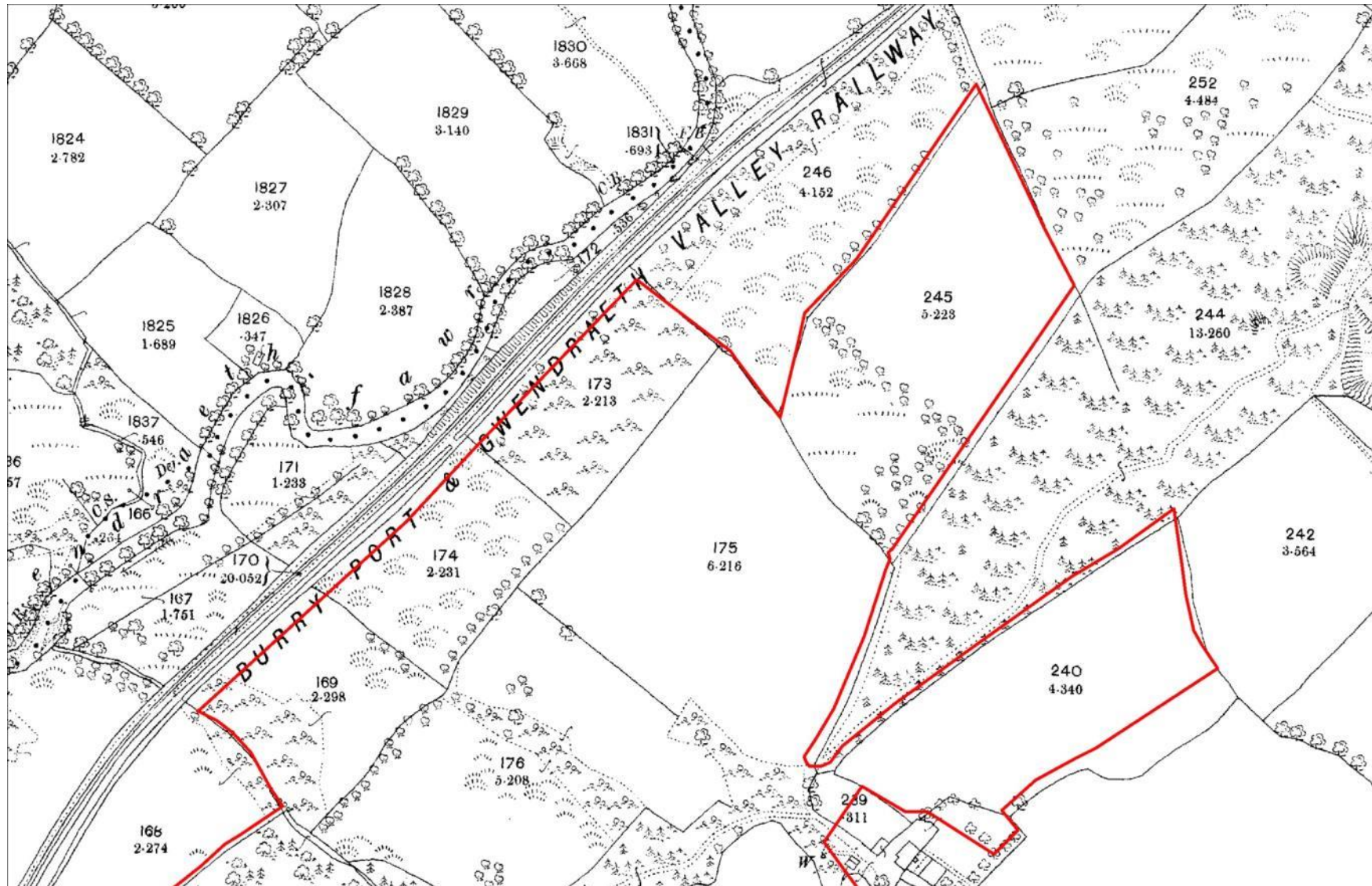
Landowner /Occupier /Farm Name	Field Number	Field Name	English Translation
Earl of Cawdor /William Rees /Caerawllon	1036	Groft	Croft
	1037	Cae war y coed	Field at the end of the wood
	1038	Cae hwnt	Far field
	1039	Cae Melin	Mill Field
	1040	Waun rhwng y dau ty	Heath between the two houses
	1035	House and garden	House and garden
	1041	Cae Diarty	Field (by the house?)
	1034	Cae'r Sgybor	Field of the barn
	1032	Dyffrun uchaf wood	Upper valley wood
	1023	Ynis y Bont	(Island?) of the bridge
	1024	Cae Ganol Wood	Middle field wood
	1030	Cae dan y coed	Field under the trees
	1031	Yr adlidd	The (?)
	1029	Dyffrun bach	Little valley
	1025	Dyffrun bach wood	Little valley wood
	1027	Groft Palaloe	(Palaloe's?) Croft
Earl of Cawdor /William Rees /Caerawllon Fach	1051	Cae wrth ty	Field by the house

**Table 9:** Details recorded in the 1842 apportionment to the tithe map



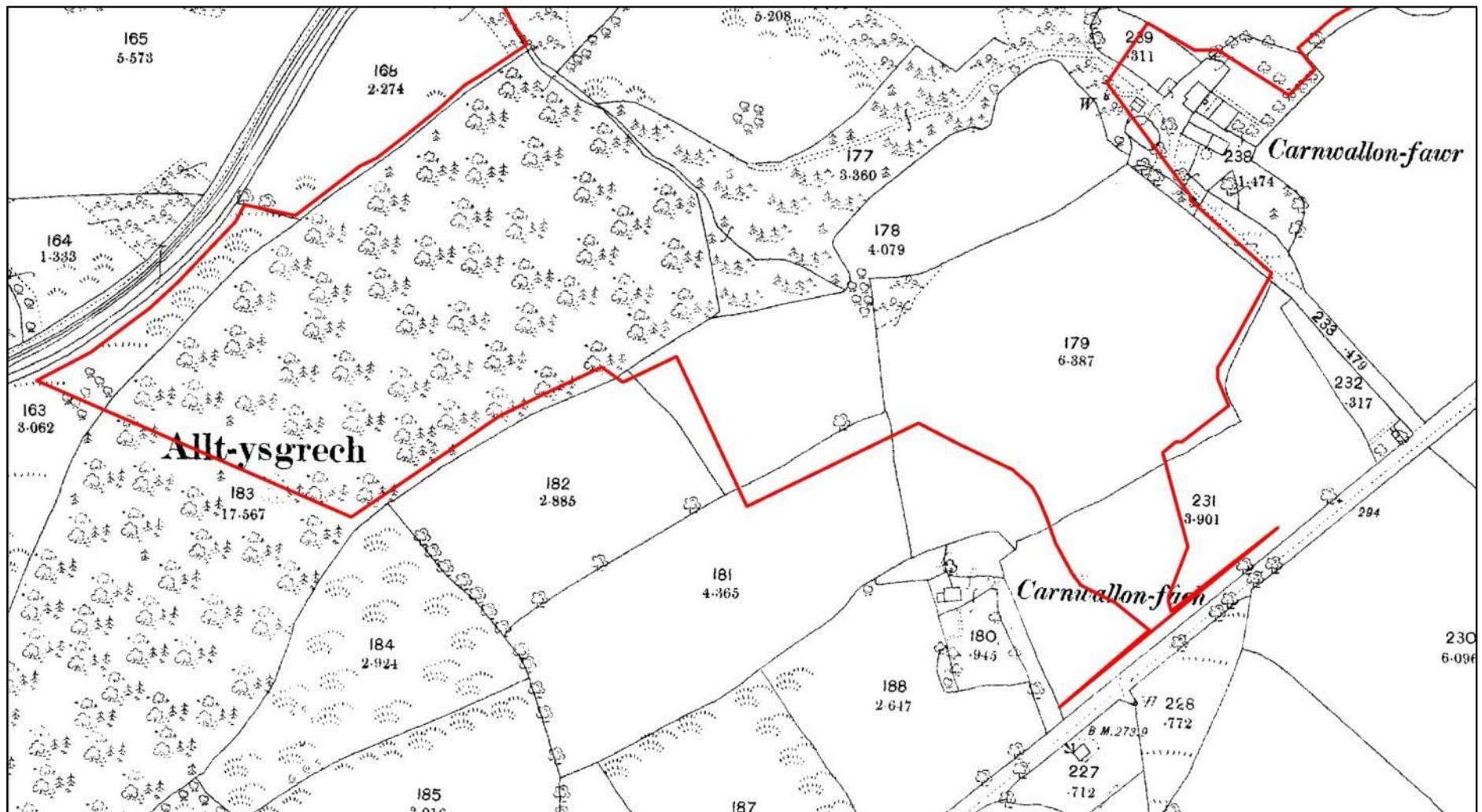
**Figure 15:** Extract of the Llanelli Parish Tithe Map of 1842, with the approximate outline of the proposed development site in red

- 3.9.3 The first edition 1:2500 Ordnance Survey (OS) map of 1880 (Figures 16 and 17) shows Carnawllon Fawr and Carnawllon Fach (both mis-spelled Carnwallon). The layout of buildings at both residences is similar to that depicted on the tithe map and a well is indicated at the larger property. Woodland is now shown and enclosed in the westernmost part of the site, and named 'Allt-ysgrech' (wooded slope of the jaybird). Coal workings are shown to the east of the site but none yet within it. The Burry Port and Gwendraeth Valley Railway is marked.
- 3.9.4 Extra buildings are shown at both Carnawllons on the second edition 1:2500 OS map of 1906 (Figure 18). An earthwork is shown northwest of Carnawllon Fawr that was identified as an old quarry during the previous desk-based assessment (letter M in Figure 13). It is possible however that it represents a former coal shaft or pit.
- 3.9.5 The 1915 1:2500 OS map (Figure 19) shows a few additional features: A trackway running from Carnawllon Fawr to the northeast and a water spout marked at its terminus. Also, a well is marked southwest of the farm.
- 3.9.6 From the 1950s OS maps show the Capel-Ifan colliery spoil tip extending into the proposed development site in its northeast corner. From the 1970s, disused levels are marked in the west of the site.

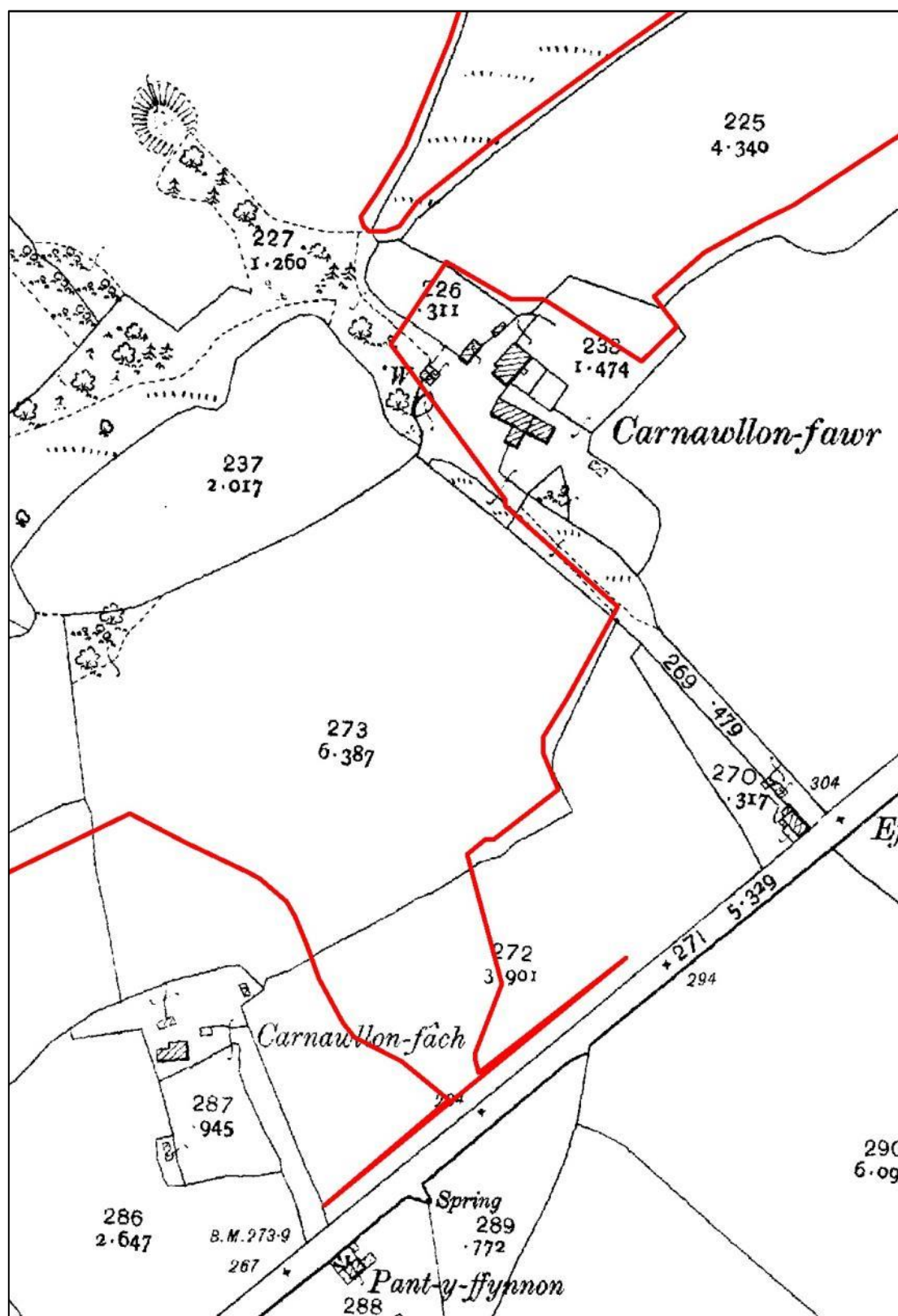


**Figure 16:** Extract of the first edition 1:2500 Ordnance Survey map of 1880, showing the northern half of the proposed development site (outlined in red)

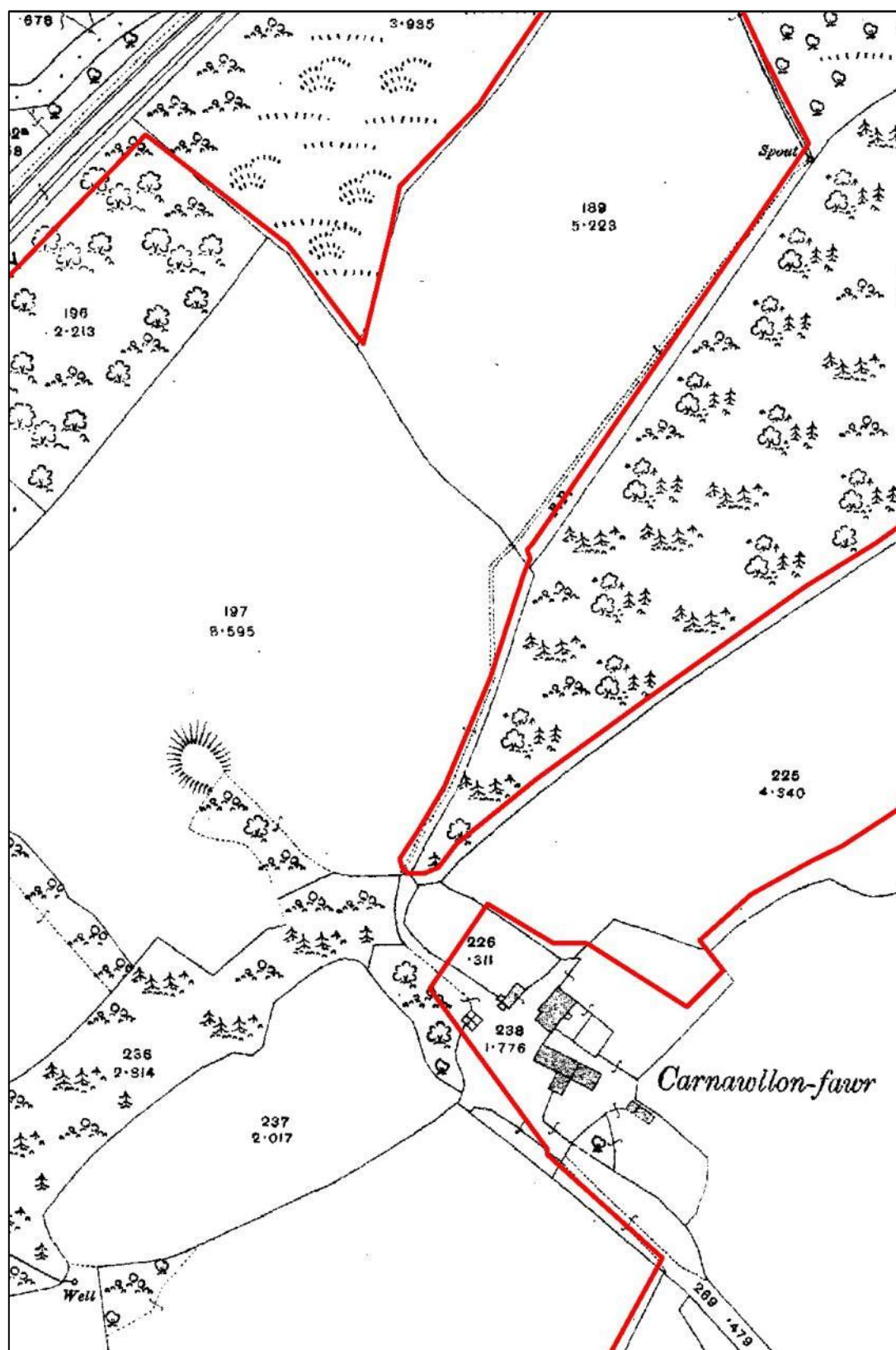




**Figure 17:** Extract of the first edition 1:2500 Ordnance Survey map of 1880, showing the southern half of the proposed development site (outlined in red)

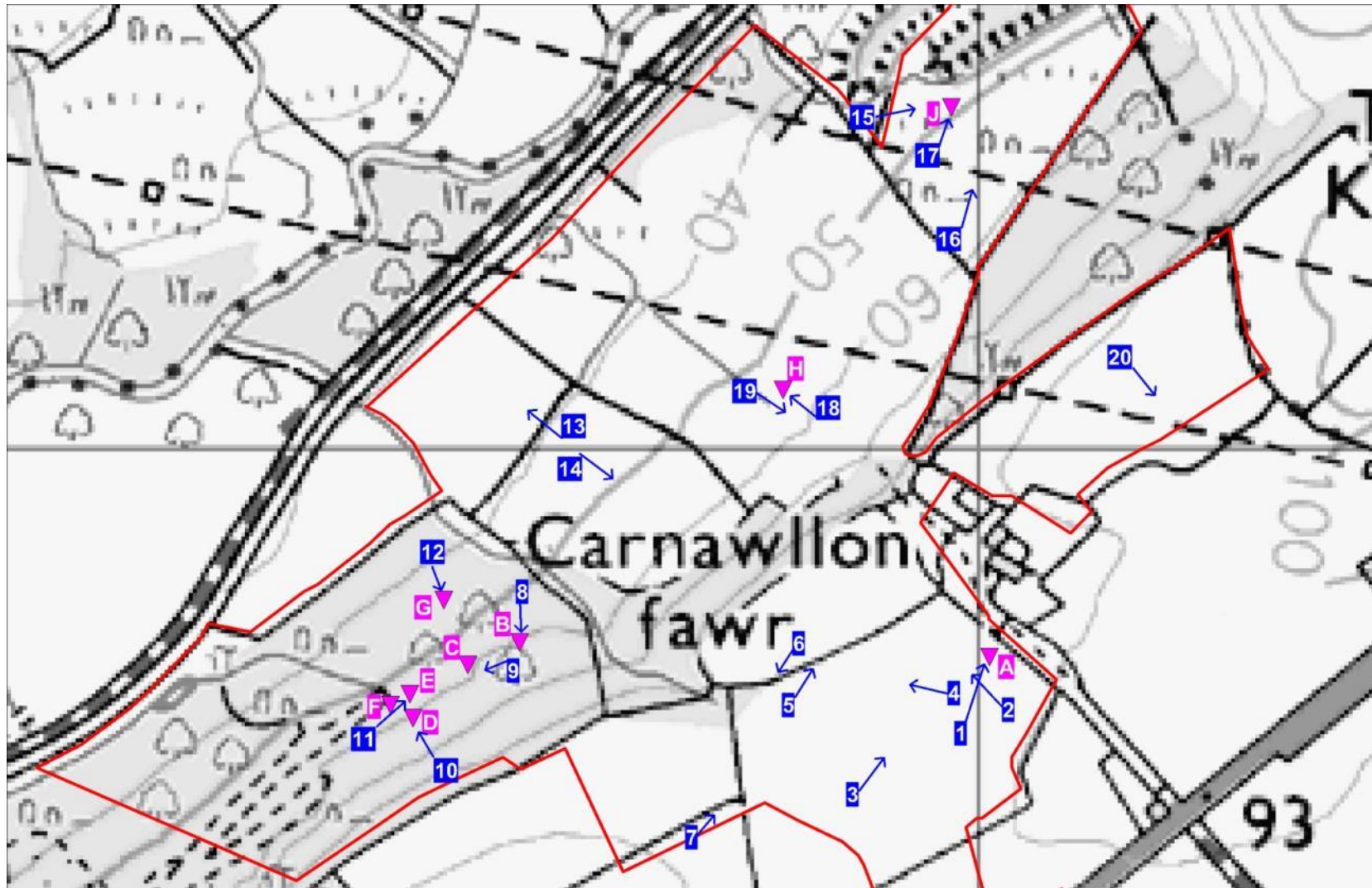


**Figure 18:** Extract of the second edition 1:2500 Ordnance Survey map of 1906, with the outline of the proposed development site in red



**Figure 19:** Extract of the 1:2500 Ordnance Survey map of 1915, with the outline of the proposed development site in red





**Figure 20:** Purple triangles with letters show sites referred to in the text, whilst numbered blue arrows indicate the position and direction of photos. The boundary of the proposed development is shown in red.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

### 3.10 Site Walkover Survey

- 3.10.1 A site visit was undertaken on the 13<sup>th</sup> of June 2017. The visit comprised a walkover of the proposed development site and the surrounding area and also incorporated looking at the wider area for views looking back to the proposed development location from designated and other sites. Photographs were taken and field observations recorded in note form. Figure 20 shows the location of sites described in the text and the locations and directions of photos taken (apart from photos 21-27 of Carnawllon Fawr house and outbuildings).
- 3.10.2 On the east side of the field, southwest of Carnawllon Fawr, uneven ground was observed ('A' in Figure 20; Photos 1 and 2). One of these mounds consisted of stone and brick rubble breaking through the surface. The owner at the farm stated that a pillared entranceway used to stand near here and that she had always thought the uneven ground to be the result of ruins of a previous house. The stone and brick mound would be a fairly recent deposit but it is possible that other mounds may contain older building rubble. Photos 1 and 2 also show outbuildings belonging to Carnawllon Fawr, mainly built of wood, which are inside the proposed development area.
- 3.10.3 Photo 3 shows the view across the recently installed gas pipeline corridor towards Carnawllon Fawr.



**Photo 1:** Looking north at lumps in the ground immediately to the southwest of Carnawllon Fawr farmhouse, at least one of which is due to brick and stone building rubble. Outbuildings are visible beyond.





**Photo 2:** Looking northwest at outbuildings immediately to the southwest of Carnawllon Fawr farmhouse. At least one of the lumps in the ground in front of the buildings is due to brick and stone building rubble.



**Photo 3:** Looking northeast across the path of the gas pipeline southwest of Carnawllon Fawr Farm. The nearest wooden fences bound the pipeline corridor.

- 3.10.4 Within the same field lies the probable defended enclosure PRN 5781. Photos 4 and 5 show views of this site, through which the gas pipeline now extends. No sign of the 2010 excavation trench could be seen but the dressed stone that was found in the ditch whilst digging was found propped up against a tree nearby (Photo 6).



**Photo 4:** Looking west-northwest towards defended enclosure PRN 5781, which is just in front of the trees



**Photo 5:** Looking northeast across defended enclosure PRN 5781. The gas pipeline runs across the image beyond the wooden fence.





**Photo 6:** Looking south-southwest at a piece of dressed stone leaning against a tree at defended enclosure PRN 5781, with a 1m scale. The stone was unearthed during the archaeological evaluation at SN 48860 09870 in 2010.

- 3.10.5 All of the field boundaries within the site seemed to be earthen, and many were quite degraded by trees growing on top of them (e.g. Photo 7). Some of them were covered by younger scrubby vegetation or overgrown hedges. A few drainage ditches were observed running down to the river, with the spoil dug from them forming earthen banks along their sides.
- 3.10.6 In the forest at the west end of the proposed development site, disused levels are marked on modern mapping and were observed during the 2008 site walkover survey (letter N in Figure 13). Many coal workings were observed here during this site visit too. They are thought to be features of an illicit opencast coal operation which took place here in the late 1960s or early 1970s (Corrigan per. comm.). Only the eastern half of this area was explored as the undergrowth became impenetrable further west. A level was seen running southwest from SN 48717 09879 to SN 48651 09832 (B in Figure 20; Photo 8). At its northeast end there was a large spoil tip (C in Figure 20; Photo 9) which spread southwestwards for about 10m. At the level's southwest end was a 6m deep pit (D in Figure 20; Photo 10), presumably for coal extraction but possibly a natural feature as a stream ran through it and no obvious tip was seen in the vicinity. Half way along the level, and cut by it, a probable adit or earlier level ran down the hill northwest-wards.
- 3.10.7 Further mining earthworks were seen and it is suspected that there were many more. Downstream from the 6m deep pit, at SN 48637 09840, were two coal pits side by side. One was filled with water (E in Figure 20; Photo 11) and the other was damp at the base (F in Figure 20). Another level was observed further north of this, with a large spoil tip at SN 48670 09905 (G in Figure 20; Photo 12).



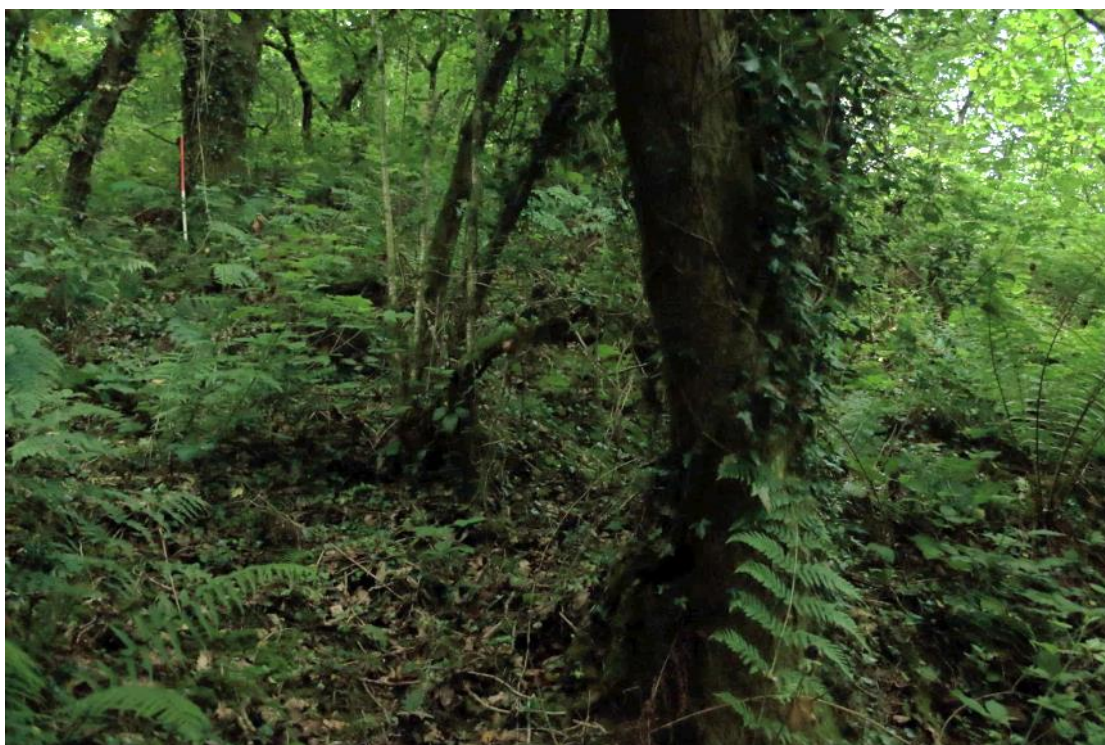


**Photo 7:** Looking north-northeast at an old earthen hedge bank now overgrown with trees, northeast of Lenham Court at SN 48840 09770, with 1m scale



**Photo 8:** Looking southwest along a mining level from its east end at SN 48717 09879, with a 1m scale





**Photo 9:** Looking south-southeast at a spoil heap at the east end of a mining level at SN 48717 09789, with a 1m scale



**Photo 10:** Looking northwest over a 6m drop at the east end of a mining level, coinciding with a stream but potentially a large coal pit. SN 48651 09832, with a 1m scale.





**Photo 11:** Looking northeast at a water-filled coal pit near the east end of a mining level at SN 48649 09847, with a 1m scale



**Photo 12:** Looking southeast along a mining level at SN 48670 09905, now flowing with water, with a 1m scale. The large mound on the right is a spoil heap.

- 3.10.8 Photos 13 and 14 show views along the gas pipeline corridor in the north of the proposed development site. Photo 13 also shows a typical view out across to the other side of the Gwendraeth Fawr valley, where there are a few farmsteads. Power lines dominate much of the image.
- 3.10.9 In the northeast corner of the proposed site there was a meadow surrounded by forests that have grown up on top of very large spoil tips of the Capel-Ifan colliery (Photos 15 and 16). A pit was noted at SN 48984 10210 (J in Figure 20; Photo 17).
- 3.10.10 This field, and the fields west of it (northwest of Carnawllon Fawr), contained circular areas of brambles, gorse, or other vegetation, that probably concealed former coal pits. Uneven ground throughout these areas was thought to mark areas where spoil was dumped. A particularly large mound was seen just north and west of the shaft/pit marked on old maps and identified during the previous desk-based assessment (letter M in Figure 13; H in Figure 20). An even bigger heap stood next to the stream (Photo 18), presumably the primary spoil dump, but the pit itself could not be located in the thick undergrowth.
- 3.10.11 A further coal extraction site was found just south of this, and was probably the origin of some of the spoil. Mining appeared to have widened and deepened the stream here for some ten metres up the hill (Photo 19).
- 3.10.12 The view from the south of the site, and example of which is shown in Photo 20, was similar to the view to the north: farmland with dispersed residences. No designated heritage assets were visible from the proposed development site.
- 3.10.13 Photos 21-27 are of the house and outbuildings at Carnawllon Fawr, which date from at least 1842 according to the tithe map.



**Photo 13:** View northwest to the other side of the Gwendraeth Fawr river valley, from near the northwestern boundary of the proposed site. Looking along the gas pipeline corridor.





**Photo 14:** View southeast from near the northwestern boundary of the proposed site. Looking along the gas pipeline corridor up towards the site of defended enclosure PRN 5781.



**Photo 15:** View northeast from SN 48740 10003, near the northwestern-most corner of the proposed site. The hills on the left and in the distance are very large spoil heaps.





**Photo 16:** View northeast from SN 48989 10141, near to the northwestern-most corner of the proposed site. The hill straight ahead is a very large spoil heap, partially within the site.



**Photo 17:** Looking north at a coal pit at SN 48984 10210, near the northwestern-most corner of the proposed site, with a 1m scale





**Photo 18:** Looking northwest at trees and other vegetation covering a coal shaft and spoil heap at SN 48880 10035, 200m northwest of Carnawllon Fawr



**Photo 19:** Looking southeast along a stream that had been widened and deepened, probably for coal extraction, with a 1m scale.





**Photo 20:** View southeast from highest point of proposed development site; the easternmost field at SN 4911 1005



**Photo 21:** Looking north-northeast at the farmhouse at Carnawllon Fawr, with a barn in the foreground on the right





**Photo 22:** Looking east at the barn immediately south of the farmhouse at Carnawllon Fawr



**Photo 23:** Looking north-northeast at the barn immediately south of the farmhouse at Carnawllon Fawr, with the farmhouse beyond





**Photo 24:** Looking north-northwest at the back of the barn immediately south of the farmhouse at Carnawllon Fawr



**Photo 25:** Looking northeast at the barn immediately southwest of the farmhouse at Carnawllon Fawr





**Photo 26:** Looking south at the farmhouse at Carnawllon Fawr

## **4 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT ON THE HISTORIC ENVIRONMENT**

### **4.1 Previous Impacts to Development Area**

- 4.1.1 The development area is known to have been previously disturbed by surface coal mining operations, consisting of the excavation of levels, shafts and pits, and the deposition of spoil tips, some of which are of substantial size. It is not known whether any deeper explorations have ever occurred.
- 4.1.2 Drainage ditches have been dug, and the earthen field boundaries have been neglected and become overgrown.
- 4.1.3 A natural gas pipeline running through the middle of the site from northwest to southeast has disturbed a 0.5km wide corridor of ground.
- 4.1.4 Latterly some of the area has reverted back to farmland. It is uncertain if ploughing has occurred, although it is likely to have been undertaken in the medieval/earlier post-medieval periods.

### **4.2 Potential Impacts from the Proposed Development**

- 4.2.1 Development would involve further extensive surface coal mining activities throughout the site, which would significantly damage or in most cases, entirely remove any archaeological remains which could potentially be present. Other groundworks associated with the development would also have this potential, such as:
  - Enabling works, such as installation of contractor's compound, construction of access roads, parking areas, storage areas and associated services;
  - initial topsoil stripping;
  - landscaping and terracing works; and
  - other ancillary infrastructure.

### **4.3 Impacts to the Settings of Surrounding Designated Features**

- 4.3.1 There are no views of designated heritage assets from or to the proposed development site that could be determined from this assessment and so no impacts to the settings of surrounding heritage assets are considered likely.

## 5 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL AND IMPORTANCE

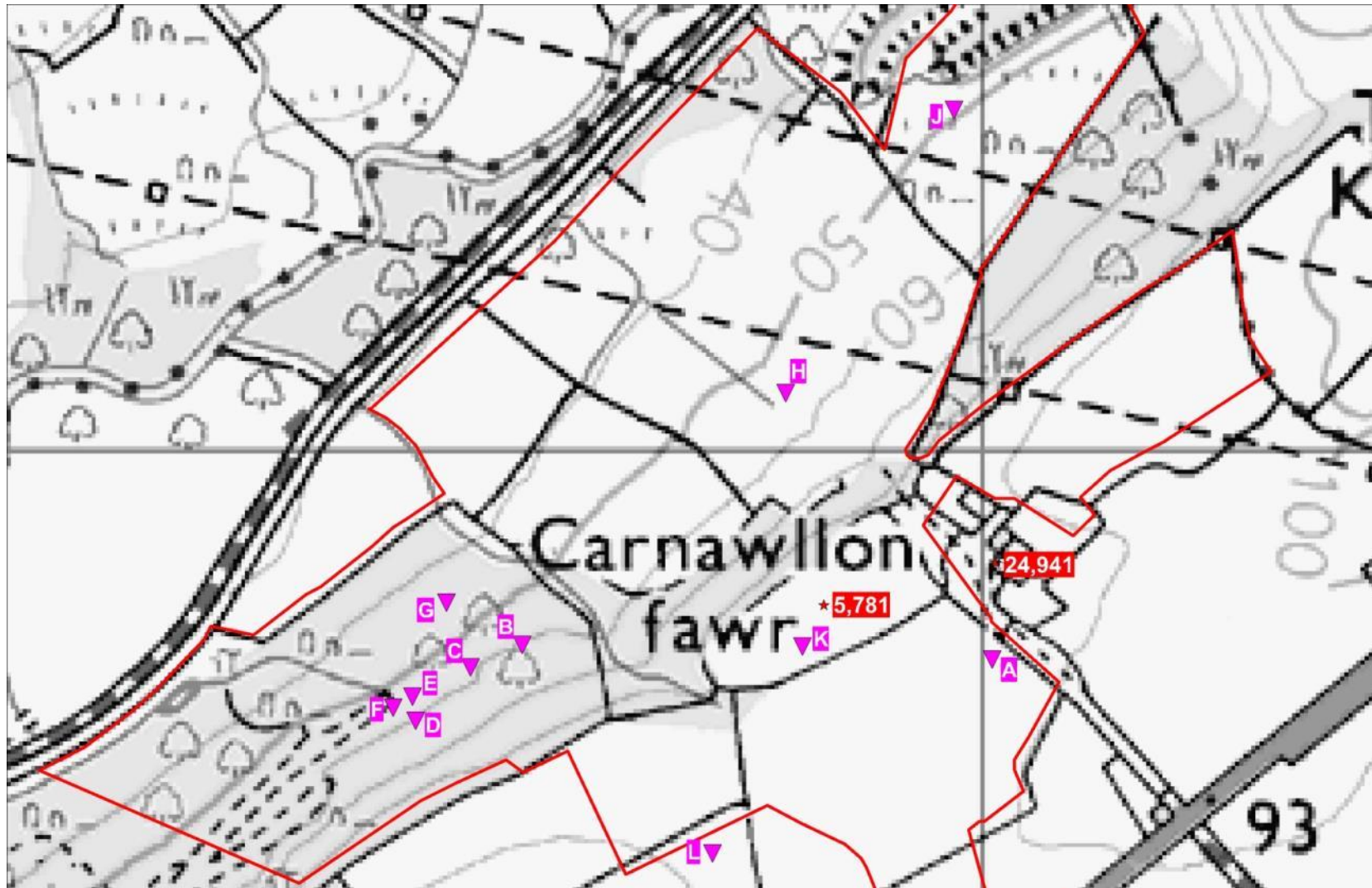
- 4.1 The archaeological desk-based assessment has shown that the proposed development lies within an area of archaeological and historical significance and potential, with evidence of human activity dating back to the Bronze Age.
- 4.2 The site walkover survey did not identify any unrecorded upstanding archaeological remains within the boundary of the proposed development.
- 4.3 A map of places within the area of proposed mining operations where there is known archaeological evidence is shown in Figure 21, with details given in Table 10. This is based only on the results of this desk-based assessment, and includes those of the previous desk-based assessment and the archaeological evaluation at the defended enclosure PRN 5781.

No.	Name	Summary	NGR
5781	Carnawllon-Fawr	A small Iron Age promontory fort created by drawing a ditch across the narrow part of a rock projection that overlooks the valley below, It is situated at 85m above sea level, and encloses an area c.40m by 75m.	SN 4885 0988
24941	Carnawllon-Fawr	Medieval/Post-Medieval Manor House / farmstead	SN49010993
A	Carnawllon-Fawr	Mounds of unknown date just southeast of the farm, one at least consisting of stone and brick building rubble	SN4900809870
B	Allt-Ysgrech	Large Post-Medieval spoil heap from coal mining	SN4871709879
C	Allt-Ysgrech	Post-Medieval coal mining level	SN4871709879
D	Allt-Ysgrech	Post-Medieval coal mining pit, 6m deep	SN4865109832
E	Allt-Ysgrech	Post-Medieval coal mining pit, water filled	SN4864909847
F	Allt-Ysgrech	Post-Medieval coal mining pit with damp base	SN4863709840
G	Allt-Ysgrech	Post-Medieval coal mining level and spoil tip	SN4867009905
H	Carnawllon-Fawr	Post-Medieval coal mining pit and spoil tip	SN4888010035
J	Carnawllon-Fawr	Post-Medieval coal mining pit, 2m wide	SN4898410210
K	Carnawllon-Fawr Croft	Field marked Croft on 1842 Llanelli Parish Tithe Map	SN4889009878
L	Carnawllon-Fach Mill	Field marked Cae Melin, 'Mill Field,' on 1842 Llanelli Parish Tithe Map	SN4883509750

**Table 10:** Known archaeological sites within the boundary of the proposed development (Figure 21)

- 4.4 An assessment of the potential for buried archaeology of the site as a whole is discussed below in order of archaeological period. The likely significance that such remains would possess is also given. Archaeological potential is defined in Table 11. Archaeological and historical importance is ascribed to the sites according to the criteria in Table 12.





**Figure 21:** Purple triangles with letters show sites discovered during this desk-based assessment, whilst numbered red stars are existing PRN records. The boundary of the proposed development is shown in red.

Reproduced from the Ordnance Survey 1:25,000 scale Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AE. Licence No 100020930

<b>Archaeological Potential</b>	<b>Definition</b>
<b>High</b>	Known archaeological remains of the period within the site area, or an abundance of remains of the period within the near vicinity
<b>Medium</b>	A number of archaeological remains of the period are present in the vicinity or wider area, and/or the topography or location of the site would be typical for remains of that period
<b>Low</b>	Few sites of a specific period are known in the wider area, or where the topography of the site is unlikely to contain remains of that period. Or where no archaeological records of a certain period are present, but the location of the site is one that would be considered suitable or typical for remains of that period to exist
<b>Negligible</b>	Where there is no evidence for archaeological remains of a certain period to be present and the location/topography is most unlikely to contain remains of that period, or where a site area has already been totally disturbed

**Table 11:** Site potential definitions

<b>Site Importance (SI)</b>	<b>Definition of Site Category</b>
<b>High</b>	Features of national importance - Scheduled Ancient Monuments, Listed buildings Grade I and II*, well preserved historic landscapes, registered parks and gardens and historic battlefields
<b>Medium</b>	Non-scheduled sites of regional or county importance. Listed Buildings Grade II, reasonably preserved historic landscapes
<b>Medium / Low</b>	Features of district or local importance but generally common features at a national or regional level
<b>Low</b>	Minor sites or sites so badly damaged that too little now remains to justify their inclusion in a higher grade
<b>Uncertain</b>	Features about which insufficient is known to attribute them to a higher rank, or which cannot be sufficiently accurately located to justify their consideration
<b>Negligible</b>	Where a site area has already been totally disturbed by previous development or natural processes

**Table 12:** Site importance definitions

- 5.6 The potential for remains of prehistoric date prior to the Bronze Age is considered to be negligible, based on the fact that there are no known sites within the development area or very close to it, and also because the ground over some of the site has been previously disturbed by coal mining and the insertion of the gas pipeline.
- 5.7 There are no Bronze Age remains within the site but within the wider area human activity at that time is well represented by burial mounds and standing stones. This fact, together with the presence of a river and many streams, where Bronze Age burnt mounds are often discovered, points to a low potential for undiscovered archaeology of this date, which would be of at least medium significance.

- 5.8 Although a defended enclosure of probable Iron Age date exists within the proposed development site, an evaluation failed to date it conclusively due to reuse as field boundaries in the post-medieval period. Much of it has been cut through by a gas pipeline. It is possible that the ditch excavated during the evaluation is of later date. Several iron arrowheads have reportedly been found there but these could be of later date also. The site *is* typical of Iron Age defended enclosures however, so the potential for remains is considered to be medium, and such remains would have at least medium significance.
- 5.9 The potential for Roman remains is thought to be negligible because there are no known sites within the development area or very close to it.
- 5.10 A medium potential for archaeological remains of Early Medieval and medieval date for the proposed development site is given by the presence of the defended enclosure and the placename Caerawllon/Carnawllon Fawr, which is thought likely to represent the central seat of power of the commote of Carnwyllion. A lost castle destroyed in 1215 is also documented to have existed within Carnwyllion commote, and this site is a likely candidate for its location. The significance of such remains if they were to be found would be at least medium, but high if the castle or remains associated with the seat of power could be found.
- 5.11 The assessment of potential for sites to survive from the Post-Medieval period is to be considered to be high as many are evident within and near to the development area already. Such surviving remains would be of low to medium archaeological importance. These sites are likely to include the various types of remains that are associated with coal mining, and agricultural remains including dwellings, outbuildings and mills.
- 5.12 There are no significant recorded sites of modern date within the development area, giving a low archaeological potential of remains that would have low archaeological significance.



## **6 DISCUSSION**

### **6.1 General Conclusions**

- 6.1.1 The proposed development would lie within two historic landscapes recorded on the National Resources Wales LANDMAP database. The fields immediately northeast, south and southwest of Carnawllon Fawr farm lie within a landscape classified as a mostly modern agricultural landscape created following open cast coaling operations, assigned low historic value. The remainder of the proposed site lies in a landscape assigned high value because it is a good example of a Carmarthenshire agricultural landscape and contributes to the general historic landscape character of the wider region. It is recorded that the area has a rich association with the coal mining traditions of Carmarthenshire.
- 6.1.2 There is one Scheduled Monument and there are eight Grade II Listed Buildings within 2km of the proposed mining site. The setting of these designated sites will not be impacted upon by the proposed development as there is considered to be no intervisibility between them. There are considered to be no designated assets further afield whose setting would be impacted upon by the mining.
- 6.1.3 Over two hundred sites are currently recorded in the national heritage databases within 2km of the proposed road route, and about twenty more have been discovered during this investigation and the previous desk-based assessment in 2008. The vast majority of these sites are Post-Medieval in date, and the remainder vary in age from Bronze Age to Medieval. About half of the recorded Post-Medieval sites are associated with coal mining and many of the rest are buildings of either agricultural or domestic purpose.
- 6.1.4 Four recorded sites exist within the boundary of the proposed development: Carnawllon Fawr defended enclosure (PRN 5781), of Iron Age/Early Medieval/medieval date, parts of Carnawllon Fawr Farm, a coal mining shaft, and mining levels. About ten more sites have been discovered during this investigation, all Post-Medieval in date and either agricultural or industrial in type. All of these sites are mapped in Figure 21.
- 6.1.5 Archaeological potential for different time periods was estimated based upon knowledge of the recorded archaeological sites in the area and patterns known to exist regionally. The potential for Palaeolithic archaeology is non-existent, and for Mesolithic and Neolithic archaeology it is extremely low. For the Bronze and Iron Ages the potential is thought to be medium and the archaeological significance of any such remains would be at least medium. The possibility of finding Roman remains is considered to be very low, and medium for the Early-Medieval and medieval (with at least medium importance). For Post-Medieval remains the potential is thought to be high, although such remains would be of low significance.
- 6.1.6 The highest potential was thought to be for further sites relating to previous coal mining, as it is known from previous studies of mining areas that many sites and workings were never recorded and remain undiscovered (Murphy 2016).

## **6.2 Archaeological Mitigation**

- 6.2.1 It is possible that further archaeological works may be required within the site area where groundworks are proposed. Such works could expose, damage or destroy remains of known and hitherto unknown archaeological sites. The main coal extraction works would significantly damage or more likely completely destroy any archaeological remains which could be present.
- 6.2.2 The nature of any such required archaeological works is uncertain and would need to be discussed with the Dyfed Archaeological Trust – Development Management section in their capacity as archaeological advisors to the planning authority.
- 6.2.3 Where groundworks are proposed, it is considered that an archaeological watching brief would be appropriate mitigation. Should significant archaeological remains be discovered during the watching brief or groundworks a further programme of archaeological evaluation and/or excavation would need to be planned and implemented.

## 7 SOURCES

### Published

Cadw. 1998. *Register of Landscapes of Outstanding Historic Interest in Wales*. Cardiff: Cadw

CIfA. 2014. *Standard and guidance for historic environment desk-based assessment*. Available at:  
[http://www.archaeologists.net/sites/default/files/CIfAS%26GDBA\\_3.pdf](http://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_3.pdf)  
[Accessed 12/Jun/2017]

Jones, D. 1980. Commote of Uncertain Name, in *Carmarthenshire Historian* 17. Carmarthen: Dyfed Rural Council

### Unpublished

Cotswold Archaeology. 2005a. Milford Haven to Aberdulais Gas Pipeline: Archaeology and Heritage Survey. Cotswold Archaeology typescript report 04147.

Cotswold Archaeology. 2005b. Milford Haven to Aberdulais Gas Pipeline: Programme of Earthwork Survey. Cotswold Archaeology typescript report 05109.

Meek, J and Ramsey, R. 2010. Carnawllon Fawr, Ponthenri, Carmarthenshire: Archaeological Evaluation. Dyfed Archaeological Trust Unpublished Report No. 2010/42.

Murphy, F. 2016. The Early Coal Mining Industry in Pembrokeshire : A Threat-Related Assessment 2015. Dyfed Archaeological Trust Unpublished Report No. 2015/14.

Murphy, F., Ramsey, R., Page, N. and Murphy, K. 2008. A Survey of Defended Enclosures in Carmarthenshire, 2007-08: Gazetteer of Ordnance Survey Grid Squares SN40, SN41, SN42, SN43 & SN44. Dyfed Archaeological Trust Unpublished Report No.2007/27.

Ratty, S. 2008. Land at Ponthenri and Pentremawr Collieries Pontyberem, Carmarthenshire: Archaeological Assessment (Revised). Dyfed Archaeological Trust Unpublished Report No. 2008/37.

### Database

Dyfed Archaeological Trust Historic Environment Record, housed with Dyfed Archaeological Trust at Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire, SA19 6AE

### Websites

British Geological Survey mapping portal. Available at:  
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [Accessed 12/Jun/2017]

Natural Resources Wales LiDAR Composite Dataset. Available at:  
<http://lle.gov.wales/Catalogue/Item/LidarCompositeDataset/?lang=en> [Accessed 12/Jun/2017]

Natural Resources Wales LANDMAP interactive mapping. Available at:  
<http://landmap-maps.naturalresources.wales/> [Accessed 12/Jun/2017]

Royal Commission on Ancient and Historic Monuments Wales – National Monument Record database interactive mapping. Available at:  
<http://map.coflein.gov.uk/> [Accessed 12/Jun/2017]

Welsh Coal Mines – [www.welshcoalmines.co.uk](http://www.welshcoalmines.co.uk)



### **Cartographic**

Parish Tithe Map and Apportionment. 1842. Llanelli.

Ordnance Survey. 1880. 1<sup>st</sup> edition 1:2500

Ordnance Survey. 1906. 2<sup>nd</sup> edition 1:2500

Ordnance Survey. 1915. 3<sup>rd</sup> edition 1:2500

# **CARNAWLLON FAWR SURFACE ANTHRACITE MINE, PONTNENRI, CARMARTHENSHIRE: HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

RHIF YR ADRODDIAD / REPORT NO. 2017/36  
RHIF Y DIGWYDDIAD / EVENT NO. 110464

Mehefin 2017  
June 2017

Paratowyd yr adroddiad hwn gan / This report has been prepared by

**Alice Day**

Swydd / Position: **Archaeologist**

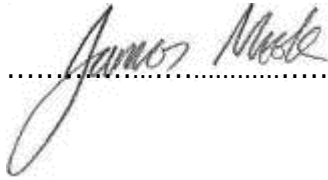
Llofnod / Signature .....  ..... Dyddiad / Date 20 Jun 2017

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith  
This report has been checked and approved by

**James Meek**

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf.  
on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: **Head of DAT Archaeological Services**

Llofnod / Signature .....  ..... Dyddiad / Date 26 July 2017

Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau  
sydd gennych ar gynnwys neu strwythur yr adroddiad hwn

As part of our desire to provide a quality service we would welcome any  
comments you may have on the content or presentation of this report

