

LAND AT PONTHENRI AND PENTREMAWR COLLIERIES PONTYBEREM, CARMARTHENSHIRE ARCHAEOLOGICAL ASSESSMENT (REVISED)



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LAND AT PONTHENRI AND PENTREMAWR COLLIERIES PONTYBEREM, CARMARTHENSHIRE ARCHAEOLOGICAL ASSESSMENT (REVISED)

By

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**LAND AT PONTHENRI AND PENTREMAWR COLLIERIES
PONTYBEREM, CARMARTHENSHIRE
ARCHAEOLOGICAL ASSESSMENT (REVISED)**

SUMMARY

This project was undertaken by Dyfed Archaeological Trust Field Services in response to a request from CDN Planning on behalf of Draeth Developments to provide an archaeological assessment of a large plot of land at Pontyberem, Carmarthenshire (centred on SN49061013) which is proposed for a programme of coal extraction and subsequent landscape restoration.

A range of documentary evidence relating to the study area was found to exist. Additional research might well identify further documentary sources. Historic Environment Records (HERs) are recorded, both within the boundaries and in the vicinity of the study area, but additional features within the study area were identified during the field visit. Some potential for buried features that cannot be discerned on the ground surface is suggested by the location and topography of the study area.

The importance of the features identified, and the likely severity and significance of the effect of development upon the cultural heritage resource are evaluated. Possible mitigation options to minimise the effect of the development on the cultural heritage resource are suggested.

INTRODUCTION

Project Proposals and Commission

A planning application (Application number S/18128) has been submitted by CDN Planning on behalf of Draeth Developments to extract coal and subsequently undertake restoration works on the site of the former Pont Henry and Pentremawr Collieries, Pontyberem, Carmarthenshire (centred NGR SN49061013). The coal will be extracted through surface mining and subsequent ground reinstatement. The construction of a site office, weighbridge, processing plant, car parking, site fencing and water treatment lagoons are also included in the proposals.

This report forms the Cultural Heritage section of an Environmental Impact Assessment (EIA) required as part of the planning application.

Methodology

Available existing written, cartographic, pictorial and technical information, held in the Historic Environment Record¹ (HER), was examined to assess the character, extent and significance of the archaeological resource within the assessment area. A site visit was also made to identify new archaeological features or deposits, or locations within the survey area that may contain them. From this information, a map and a table of archaeological sites and features within the survey area was produced. The archaeological resource is placed in its local, regional and national contexts. The potential effect of development upon the archaeological resource is assessed and possible mitigation measures are suggested for consideration.

Abbreviations used in this report

All sites recorded on the county HER are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). References to cartographic and documentary evidence and published sources are given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

¹ Held and managed by Dyfed Archaeological Trust, The Shire Hall, Llandeilo.

THE STUDY AREA

Location and Description

The site is located within the Gwendraeth Valley a short distance to the west of the B4317 which links Pontyberem and Tumble. The proposed coal extraction site occupies an area of c.26 hectares and varies from c.50m above Ordnance Datum (OD) in the southwest corner, to c.105m OD in the northeast.

To the west the site is bounded by the Gwendraeth Fawr River and the former Burry Port and Gwendraeth Valley Railway mineral line. To the north and south the main working area is bounded by woodland and scrub.

Map evidence has revealed the proposed coal extraction area has been utilised for coal mining since the latter part of the 19th century with a total of four known collieries having once operated on the site, these being Ty'n y Waun, Pont Henry, Capel Ifan and Pentremawr. However, it is probable that hitherto unknown mine workings may lie within the proposed coal extraction area.

Since the closure of the collieries the area has become derelict and has been the subject of much illegal tipping as evidenced by the presence on the site of vehicle tyres, gas bottles and household debris.

Perhaps the most significant development to have occurred within the proposed coal extraction area since the closure of the collieries has been the construction of a major liquefied natural gas pipeline which crosses the site to the northwest of Carnawllon Fawr Farm.

ASSESSMENT OF THE SOURCES USED IN THIS STUDY

Documentary Resources

Documentary research was undertaken in the Regional HER and county records office, Carmarthen. Historic mapping, HER records and general published works relating specifically to the study area were identified and examined. The relevant HER records are described below and summarised in Table 1.

Historic Environment Record

Six existing records are recorded within the study area. PRN 5781 relates to Carnawllon Fawr defended enclosure. PRN 16373 is the Capel Evan/Pentremawr Colliery. PRN 21521 refers to Bath and Elba cottages. PRN 23963 records Pont Henry Colliery, which extends outside the south-western edge of the study area. PRN 24941 has been allocated to Carnawllon Fawr Manor House/Farmstead and PRN 30664 refers to Pentremawr Colliery Pithead Baths.

Maps

Tithe Map 1842

The Tithe map depicts Bath and Elba cottages along with two further cottages within the proposed coal extraction area. In addition to these a possible mill is also marked.

1st Edition Ordnance Survey Map of 1880

The first edition Ordnance Survey map clearly shows both Capel Evan and Ty'n Y Waun Collieries in existence, along with the Burry Port and Gwendraeth Valley railway line. Carnawllon Fawr Manor House/Farmstead is also depicted. A number of old coal workings are also depicted along with disused quarries. The possible mill depicted on the Tithe map is also marked.

2nd Edition Ordnance Survey Map of 1906

The second edition Ordnance Survey map shows that Capel Evan Colliery had clearly expanded with a number of additional buildings having been added along with what appear to be tramways leading from the slants to railway sidings. Additional slants were also being worked and the existing spoil tip is marked. It would also appear that Ty'n Y Waun Colliery had been renamed Pont Henry Colliery which had also been expanded. To the north east of the main colliery complex a substantial D-shaped feature is noted. Disused coal workings and quarries are also depicted along with a cottage named as Incline Cottage. The possible mill marked on the Tithe map and 1st edition Ordnance Survey map is named as Hen-Felin.

Ordnance Survey Map of 1968 SN41SE

The map of 1968 shows by this time Pentremawr Colliery had greatly expanded and a substantial number of buildings and tramways had been constructed. The coal tip is still present but is much larger and marked as Tip (disused). It would also appear that much of the railway sidings had been removed. The site of Pont Henry Colliery had been mostly cleared of buildings by this point its site being marked by coal tips.

THE CULTURAL HERITAGE RESOURCE (see figure 4)

There are no listed buildings within the study area.

There are no buildings with potential to be listed, within the study area.

There are no Scheduled Ancient Monuments within the study area.

Previously Recorded Sites

PRN 5781 Carnawllon Fawr Defended Enclosure (NGR SN48839869)

A small inland promontory fort located in a field known as Y Banc at Carnawllon Fawr Farm. The site comprises a ditch cut across the narrowest point of a rocky outcrop overlooking a ravine. However the site has been ploughed over the years and appears to have been all but levelled. There is the suggestion that 'several iron arrow heads' were found at the site but these were not retained (Murphy *et al*, 2008).

The site was also on the route of a large liquefied natural gas pipeline recently constructed across South Wales, which may have removed part of the site during its construction. An archaeological evaluation and monitoring was carried out during the construction of the pipeline, but no evidence of the enclosure was noted (Murphy *et al*, 2008).

PRN 16373 Capel Ifan Colliery - Pentremawr Colliery (NGR SN49350560)

Capel Ifan - Pentremawr survives as a collection of brick and stone structures which had undergone much destruction and are in varying degrees of preservation. Further surviving features include road and former tramways. There is the possibility that further structures and workings may be found in the dense undergrowth which covers large portions of the site. Also surviving on the site is the substantial coal tip associated with the colliery.

It is known that the first two slants in this area of the Gwendraeth Valley to reach the rich underlying anthracite seams were aborted following a large fault being encountered in 1870. Three further slants initially known as Capel Ifan Numbers 1, 2 and 3 were opened later to work the Gwendraeth, Braslyd, Gras and Trichwart seams (Cornwell, nd). This suggests the presence of Capel Ifan Colliery prior to the establishment of Pentremawr. By 1886 Capel Ifan Colliery had been absorbed into the new Pentremawr Colliery.

In 1896 the Inspector of Mines List records 160 men employed at Pentremawr, which was owned by the Pentremawr Colliery Company. In 1913 the Pumquart Number 4 slant was driven to work the Pumquart Seam. It is known that in 1923 956 men were employed by the colliery and that this had grown to 1007 by the following year. In 1927 the Pentremawr Colliery Company Limited was absorbed into the Amalgamated Anthracite Combine. The discovery of the eight foot thick Big Vein Seam at Pentremawr in 1939 ushered in a boom time for the colliery. Production figures for 1956 indicate a total of 226,273 tons of anthracite were produced by a workforce of in the region of 900 men, which was down from the number employed in the 1920s (*ibid*).

Pentremawr Colliery had the dubious honour of being the location of the largest outburst of coal dust and methane gas in the United Kingdom when 1000 tons of dust erupted from the Big Vein on the 1st September 1966. Nobody was killed as a result of the incident, however it is known that miners had been killed at Pentremawr in smaller outbursts:

NAME	OUTBURST
Eurig Vesser Griffiths	4 th July 1945
Elvet Lewis	4 th July 1945
Elwyn Walters	16 th September 1965

Table 1: Miners killed at Pentremawr Colliery through outbursts

The Pumquart Number 4 slant was closed in 1968 the coal from then on being brought to the surface via Capel Ifan Number 3 slant. Pentremawr Colliery was integrated with Cynheidre Colliery, which was located two miles to the south, in 1974 (Powell & Thomas, 123). Pentremawr Colliery finally closed along with Cynheidre in 1989 (Cornwell, undated).

PRN 21521 Bath and Elba Cottages (NGR SN49040209)

Two cottages are shown on the 1842 Tithe Map for Llanelli Rural Parish. The cottages are not marked on either the 1st edition OS map (1880) or the 2nd edition OS map (1906), which suggests they had been demolished sometime prior to 1880.

PRN 24941 Carnawllon Fawr Manor House/Farmstead (NGR SN49010993)

Carnawllon Fawr holds the distinction of being the only place to bear the name of the former commote of Carnawllon (Jones 1980, 3). The commote name can be traced back as far as c.1100 where it is recorded as *Cornoguatlaun* in the *Vitae Sancti Cadoci* (ibid, 2). 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 Llidiaid 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' (ibid).

It is possible that Carnawllon Fawr retained the name of the commote due to it once being the location of its caput. The term caput refers to the principal centre of a commote. It is also known that a castle was once located within Carnawllon commote this was destroyed by Rhys Ieunc in 1215. It is not known where this castle was located.

Carnawllon Fawr once formed part of the Carnawllon Estate, which is known to have been in existence by 1780, comprised of 407 acres and was part of the substantial Golden Grove estate (Jones 1980, 7). It is known 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 25th June to *'mine or quarry the fields of Carnawllon'* (ibid, 6). On July 3rd 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' (ibid).

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

PRN 23963 Pont Henry Colliery (NGR SN480109620)

Very little survives of Pont Henry Colliery today with much of the site having been cleared. However, the property known as Woodlands was formerly the colliery office and the present garage of the property was the winding house, although this is now much altered. To the south east of Woodlands is located Llwyncelyn which was once the residence of the manager of Pont Henry Colliery. Coal tips exist to the east of Woodlands and it is possible that further remains may be encountered within the scrub that covers much of the site.

Pont Henry Colliery came into existence following the founding of the Ponthenri Colliery Company in 1865. It was established as a typical drift mine for the Gwendraeth Valley (Cornwell, undated). It would appear through map evidence that Pont Henry Colliery absorbed the existing Ty'n y Waun Colliery which operated on the same site.

At Pont Henry three drift mines, the Gwendraeth, Stepney, and Glynhir followed the high quality anthracite seams and worked the, Big Vein, Felin, Gwendraeth, Braslyd, Pumquart and a small quantity of Gras seams. The Pumquart seam earned Pont Henry Colliery the reputation of being one of the most dangerous mines to work in, due to the horrendous outbursts of fine coal dust and methane gas. Thirty seven outbursts were known to have occurred throughout the working life of the colliery, claiming the lives of ten miners.

The Inspector for Mines list of 1896 indicates 192 men were employed at Pont Henry Colliery. At its peak over 800 men were working at the colliery, but this had dipped to 504 in 1918. In 1923 it is known that 634 men were employed. Although the mine had extensive reserves of coal available it was closed in 1936, having become too dangerous to work. (Cornwell, undated).

NAME	DATE OF OUTBURST
William Thomas	27 th February 1920
Thomas Williams	27 th February 1920
Thomas Evans	14 th March 1923
George Buck	3 rd September 1924
Samuel Philip Evans	3 rd September 1924
William Henry Evans	3 rd September 1924
William David Jenkins	3 rd September 1924
Stanley Morris	3 rd September 1924
David John Lewis	10 th July 1928
Richard John Williams	10 th July 1928

Table 2: Miners killed at Pont Henry Colliery through outbursts.

PRN 30664 Pentremawr Colliery Pithead Baths (NGR SN49380520)

In 1995 the Pentremawr Colliery Pithead Baths were described as being a large derelict building which incorporated the pithead baths, canteen, boiler house and chimney. The structure was the target for vandalism but it remained structurally sound (Sambrook, 31). During the course of a site visit undertaken in March 2008 it was discovered that the pithead bath complex had been cleared.

In addition to these previously identified sites a number of further sites of possible archaeological significance were identified during the site visit and from map evidence. With the exception of features A, B and T all these features lie within the limits of the assessment area.

Sites Identified During this Assessment

A - Winding House (NGR SN49840750)

A possible winding house was noted to the south of the access road to the Pentremawr Colliery site. The structure, built of red engineering brick, survives to full height and retains its roof. Two rectangular window openings with concrete lintels were noted in the north gable wall, along with further openings in both east and west side walls. The building was accessed by opposing doorways in the east and west walls. Internally the structure has suffered from vandalism although it was possible to identify brick lined pits in the floor that may have formed the base of the winding gear. A single low opening was noted in the south wall its function was not clear.

B - Blocked Slant (NGR SN49840734)

A blocked slant probably associated with the adjacent possible winding house. The slant was arched and constructed of red engineering brick. The jagged nature of the brickwork at the entrance suggested that it once extended further towards the possible winding house. The entrance to the slant had been sealed with a concrete block wall to prevent access. However, a conversation with a local resident during the course of the site visit revealed that the slant extends for over two hundred metres (*pers. com*).

C - Cottage (NGR SN49410583)

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. Cottage also depicted on both 1st (1880) and 2nd (1906) edition Ordnance Survey Maps. The 2nd edition map names the property as Incline Cottage.

D - Old Coal Level (NGR SN49350597)

Old coal level probably related to Capel Evan - Pentremawr Colliery and marked on the 1st edition and 2nd edition Ordnance Survey maps.

E - Old Coal Slant (NGR SN49360535)

Old coal slant probably originally part of Capel Evan Colliery and depicted on the 1st edition Ordnance Survey map of 1880.

F – Old Coal Pit (NGR SN49420389)

Depicted on 1st edition Ordnance Survey Map of 1880 as Old Coal Pit. Also marked on 2nd edition Ordnance Survey map but as Slant.

G – Unknown Structures (centred on NGR SN49560504)

A series of three structures marked on the 1st edition Ordnance Survey map. By the publication of the 2nd edition there appear to be four structures marked. It is not clear from the map evidence what these structures were.

H – Pentremawr Colliery Tip (centred on NGR SN49220376)

This feature first appears on the 2nd edition Ordnance Survey map and was still extant at the time of the site visit in 2008.

I – Winding House Base, Pentremawr Colliery (NGR SN49370670)

A substantial stone base of a possible winding house that overlooks the former Burry Port and Gwendraeth Valley Railway line.

J – Mill? (NGR SN49160541)

A possible mill marked on the 1842 Tithe Map for Llanelly Parish. Structure is still in existence by the publication of 1st edition Ordnance Survey map. On the 2nd edition Ordnance Survey map the site is marked as Hen-felin.

K – Old Quarry (NGR SN49270214)

Old quarry marked on 1st and 2nd edition Ordnance Survey Maps. Probably out of use prior to 1880.

L – Cottage and Garden (NGR SN49180201)

Cottage and garden marked on Llanelly Parish Tithe Map and listed in accompanying Apportionment as owned by Earl of Cawdor and occupied by William Rees. Cottage is not marked on 1st or 2nd edition Ordnance Survey maps.

M – Quarry (NGR SN48880035)

Quarry marked to northwest of Carnawllon Fawr on 2nd edition Ordnance Survey map.

N – Disused Levels and Workings (NGR SN48629809)

Series of disused levels and workings noted during the site visit.

O – Ponthenry Colliery Tips (centred on NGR SN48399681)

Series of substantial coal tips probably relating to Ponthenry Colliery now mostly tree covered.

P – Quarry (NGR SN48880035)

Disused quarry noted in woodland during course of site visit.

Q- D-shaped Feature (NGR SN48239644)

D-shaped feature marked on 2nd edition Ordnance Survey map. Feature was probably related to nearby Pont Henry Colliery.

R – Old Coal Pit (NGR SN48249519)

Old coal pit marked on 1st edition Ordnance Survey map.

S – Old Coal Shaft (NGR SN48169529)

Abandoned coal shaft marked on 2nd edition Ordnance Survey map.

T – Slant/ Drain (NGR SN48229405)

An arched engineering brick constructed slant or drain in a good state of preservation. It is possible that this is a former slant as it is located in relatively close proximity to Pont Henry Colliery. However, it is equally likely it may have functioned as a drain for the colliery workings as water flows from it. The mouth of the structure is open and appears to extend underground for c.10m where it has been blocked.

Archaeological Potential

The absence of evidence for archaeological sites is not necessarily evidence of their absence evidence for which may still survive below ground. The likelihood of such sites being present within an area is a judgement based on the presence of known sites in the vicinity.

The Gwendraeth Valley is well known for its coal mining heritage as far back as the 1600s. Therefore, it is likely that hitherto unknown workings may be encountered within the assessment area. Abandoned mine workings have the potential to provide not only information regarding their construction and the method of mining employed, but also the possibility of artefact retrieval in the form of tools, machinery and trams.

There is also the possibility of encountering medieval remains that may survive in the vicinity of Carnawllon Fawr, along with possible prehistoric evidence from Carnawllon Fawr defended enclosure. The documentary reference to early coal mining in the vicinity of Carnawllon Fawr raises the probability of encountering not only shafts but also evidence for early winding gear such as windlasses, horse gins and cog and rung gins.

Although no direct evidence has been identified, the presence of hitherto unknown features being present within the assessment area, cannot be discounted.

ASSESSMENT OF ARCHAEOLOGICAL IMPORTANCE

The importance of all previously recorded and newly identified sites is categorised according to the following criteria, based on those given in the Department of Environment, Transport and Regions' *Design Manual for Roads and Bridges* Volume 11 Section 3 Part 2 (1993):

- A** - sites of national importance - usually Scheduled Ancient Monuments or Grade I and II* Listed Buildings
- B** - sites of regional or county importance and Grade II Listed Buildings
- C** - sites of district or local importance
- D** - minor sites or sites so badly damaged that too little now remains to justify their inclusion in a higher grade
- E** - sites about which insufficient is known to assign them to a higher grade

Ruined post medieval settlements have been ranked as being of local importance (C) because they reflect the more recent history of land-use and settlement in the area, but are generally common features at a national or regional level.

Minor or significantly damaged sites have been ranked as 'D'.

Sites attributed to rank 'E' include records that are no longer considered to be of archaeological significance, but this rank also includes sites about which insufficient is known to attribute them to a higher rank, or which cannot be sufficiently accurately located to justify their consideration. With the availability of additional information such sites could potentially be reassigned to higher grades of importance.

Site	NGR	Site type	Period	Form	Category
5781	SN48839869	Hillfort?	Iron Age	Earthwork	E
16373	SN49350560	Coal Mine	Post medieval	Earthwork	C
21521	SN49040209	Cottages	Post medieval	Documents	E
23963	SN48019620	Coal Mine	Post medieval	Earthwork	C
29491	SN49010993	Manor house? Farmstead	Medieval? Post medieval	Building	C
30664	SN49380520	Pithead baths	Post medieval	Building	E
A	SN49840750	Winding house	Post medieval	Building	D
B	SN49840734	Slant	Post medieval	Building	E
C	SN49410583	Cottage	Post Medieval	Documents	E
D	SN49350597	Old Coal Level	Post Medieval	Documents	E
E	SN49360535	Old Coal Slant	Post Medieval	Documents	E
F	SN49420389	Old Coal Pit	Post Medieval	Documents	E
G	SN49560504	Unknown Structures	Post Medieval	Documents	E
H	SN49220376	Pentremawr Colliery Tip	Post Medieval	Spoil Tip	C
I	SN49370670	Winding House Base	Post Medieval	Structure	C
J	SN49160541	Mill?	Post Medieval	Documents	E
K	SN49270214	Old Quarry	Post Medieval	Documents	E
L	SN49180201	Cottage and Garden	Post Medieval	Documents	E
M	SN48880035	Quarry	Post Medieval	Documents	E
N	SN48629809	Disused levels and workings	Post Medieval	Documents	E
O	SN48399681	Ponthenry Colliery tips	Post Medieval	Spoil Tip	C
P	SN48389569	Quarry	Post Medieval	Quarry	E
Q	SN48249519	Old Coal Pit	Post Medieval	Documents	E
R	SN482391644	D-shaped feature	Post medieval	Documents	E
S	SN48169529	Old Coal Shaft	Post Medieval	Documents	E
T	SN48229405	Slant/ Drain	Post Medieval	Structure	E

Table 3: Assessment of importance of HER records and newly identified sites.

ASSESSMENT OF LIKELY SEVERITY OF PHYSICAL EFFECTS

Previously Recorded Sites

An assessment of the likely severity of effect of a proposed development on identified archaeological features can be made according to the following criteria:

- 1- Total** - complete destruction of the site
- 2- Very severe** - loss of most of the major components of a site
- 3- Severe** - loss of some of the major components of a site
- 4- Medium** - loss of some components of a site
- 5- Slight** - some loss of some minor components of a site
- 6- None**
- 7- Beneficial**

Site	NGR	Site type	Form	Site Importance	Likely Severity of Effect
5781	SN48839869	Hillfort?	Earthwork	E	Total
16373	SN49350360	Coal Mine	Earthwork	C	Total
21521	SN49040209	Cottages	Documents	E	Total
23963	SN48019620	Coal Mine	Earthwork	C	None
29491	SN49010993	Manor house? Farmstead	Building	C	None
30664	SN49380520	Pithead baths	Building	E	Total
A	SN98380750	Winding House	Building	D	None
B	SN98420740	Slant	Structure	D	None
C	SN49410583	Cottage	Documents	E	Total
D	SN49350597	Old Coal Level	Documents	E	Total
E	SN49360535	Old Coal Slant	Documents	E	Total
F	SN49420389	Old Coal Pit	Documents	E	Total
G	SN49560504	Unknown structures	Documents	E	Total
H	SN49220376	Pentremawr Colliery Tip	Spoil Tip	C	None ²
I	SN49370670	Winding House Base	Structure	C	None
J	SN49160541	Mill?	Documents	E	Total
K	SN49270214	Old Quarry	Documents	E	None
L	SN49180201	Cottage and Garden	Documents	E	None
M	SN48880035	Quarry	Documents	E	Total
N	SN48629809	Disused Levels and Workings	Documents	E	Total
O	SN48399681	Ponthenry Colliery Tips	Spoil Tip	C	Total
P	SN48389569	Quarry	Quarry	E	Total
Q	SN48249519	Old Coal Pit	Documents	E	Total
R	SN48249640	D-shaped Feature	Documents	E	Total
S	SN48169529	Old Coal Shaft	Documents	E	Total
T	SN48229405	Slant/ Drain	Structure	E	None

Table 4: Summary of possible severity of effects of proposed coal extraction.

² Whilst Pentremawr Colliery Tip is located within the proposed coal extraction area it will not be affected as it is to be retained as a feature of cultural importance.

Archaeological Potential

It is possible that further hitherto unknown archaeological features or sites may be located within the assessment area. The wooded and overgrown nature of much of the area has the potential to hide further structures and workings relating to the coal mining heritage of the area.

Additionally there is the potential for remains of both prehistoric and medieval date in the vicinity of Carnawllon Fawr, along with possible evidence for early coal workings.

Unknown sites within the assessment area should be considered as a potential constraint. Negative effects to these sites could be mitigated by additional archaeological action, either field evaluation prior to the commencement of coal extraction (to ascertain the presence or absence of features) or during coal extraction (if features deserving mitigation are encountered).

SIGNIFICANCE OF PHYSICAL EFFECTS

Having evaluated the archaeological significance of the features (Table 3) and the likely severity of the effects of the proposed scheme (Table 4), the likely significance of effects can be assessed according to the following table.

SITE IMPORTANCE					
SEVERITY OF EFFECT	A	B	C	D	E
1 Total	Major	Major	Moderate	Minor	Unknown
2 V Severe	Major	Major	Moderate	Minor	Unknown
3 Severe	Major	Moderate	Minor	Minor	Unknown
4 Medium	Moderate	Moderate	Minor	Minor	Unknown
5 Slight	Moderate	Minor	Minor	Minor	Unknown
6 None	No Effect	No Effect	No Effect	No Effect	No Effect
7 Beneficial	Beneficial	Beneficial	Beneficial	Beneficial	Unknown

Site	NGR	Site type	Site Importance	Severity of Effect	Significance of Effect
5781	SN48839869	Hillfort?	E	1	Unknown
16373	SN49350560	Coal Mine	C	1	Moderate
21521	SN49040209	Cottages	E	1	Unknown
23963	SN48019620	Coal Mine	C	6	No effect
29491	SN49010993	Manor house? Farmstead	C	6	No effect
30664	SN49380520	Pithead baths	E	1	Unknown
A	SN98380750	Winding House	D	6	No effect
B	SN98420740	Slant	D	6	No effect
C	SN49410583	Cottage	E	1	Unknown
D	SN49350597	Old Coal Level	E	1	Unknown
E	SN49360535	Old Coal Slant	E	1	Unknown
F	SN49420389	Old Coal Pit	E	1	Unknown
G	SN49560504	Unknown Structures	E	1	Unknown
H	SN49220376	Pentremawr Colliery Tip	C	6	No effect
I	SN49370670	Winding house Base	C	6	No effect
J	SN49160541	Mill?	E	1	Unknown
K	SN49270214	Old Quarry	E	6	No effect
L	SN49180201	Cottage and Garden	E	6	No effect
M	SN48880035	Quarry	E	1	Unknown
N	SN48629809	Disused Levels and Workings	E	1	Unknown
O	SN48399681	Ponthenry Colliery Tips	C	1	Moderate
P	SN48389569	Quarry	E	1	Unknown
Q	SN48249519	Old Coal Pit	E	1	Unknown
R	SN48249640	D-shaped Feature	E	1	Unknown
S	SN48169529	Old Coal Shaft	E	1	Unknown
T	SN48229405	Slant/ Drain	E	6	No effect

Table 5: Assessment of significance of effects.

SUGGESTED MITIGATION

Preservation *In-situ*

This is the preferred option for all significant cultural heritage features and can be achieved by avoiding direct physical effect upon features (when their exact location and extent is known) through design. It is suggested that Pentremawr colliery tip (feature H) and the winding house base (feature I) be preserved *in-situ* on the basis that much of the coal mining heritage of the Gwendreath Valley has been cleared and both features would be historical assets to the communities of the local area.

Preservation by Record

Three options are suggested:

1. Evaluation

If there is an unavoidable effect upon a known site, or where it is uncertain if there will be an effect because the exact location, extent or archaeological significance of the site is not known, then an archaeological evaluation may be advisable in order to assess the presence or absence of archaeological features and their vulnerability from the development. The results of the evaluation can then inform decisions as to whether to re-design the scheme to avoid the features, or to mitigate the effect through 'preservation by record' (see 'excavation' below).

In some instances non-intrusive evaluation methods such as geophysical survey might be sufficient to ascertain the presence of archaeological features. Otherwise, trial trenches can be excavated within the proposed development area to ascertain the presence or absence of archaeological deposits.

It is not possible to ascertain the archaeological importance and sensitivity of Carnawllon Fawr defended enclosure (PRN 5781) and earthwork feature D without further information. An archaeological evaluation of these features might be considered to provide the information required to fully assess the impact of the scheme upon these features.

2. Watching brief

The effect upon minor sites, or sites where the location or existence is not known, can be mitigated by undertaking an archaeological watching brief to record any unforeseen archaeological features that may be encountered during construction, this affording preservation by record.

The assessment area may contain hitherto unknown archaeological remains. The effects of development upon any such features could be best mitigated as a watching brief.

The impacts from the proposed coal extraction programme upon known features such as Pont Henry Colliery, the areas around Carnawllon Fawr, Pentremawr Pithead Baths and Bath and Elba Cottages are considered not to warrant more mitigation than can be achieved through a watching brief on the area during site preparation.

An archaeological watching brief would also be appropriate mitigation for any hitherto unknown features being revealed within the development area during construction.

3. Excavation/ building recording

Where archaeological features cannot be avoided, or are considered to be of insufficient importance to warrant preservation *in-situ*, then 'preservation by record' can be undertaken to excavate and record archaeological deposits before development commences.

The site of Pentremawr Colliery, containing extant buildings, could be photographically recorded and this action is recommended for any other structures that may be uncovered during initial clearance of vegetation on site.

The effects of the development on Carnawllon Fawr defended enclosure and earthwork feature D could be mitigated by complete or partial excavation following a field evaluation.

Other Options

Additional mitigation might include further documentary research on the history of the collieries which operated within the assessment area. A further option to augment this would be to solicit the residents of the locality in order to identify former employees of the collieries and or their descendents to collect and record their experiences or memories of the collieries. This oral history of a site is a resource that often appears to be overlooked, and a programme could be initiated in conjunction with local or family history groups to collect and collate this data. Such research could inform any publicity, press coverage or public relations, information panels etc. that may arise from the proposed coal extraction programme.

COMMENTS AND SUGGESTIONS

The potential effect of the coal extraction proposals upon the historic features within the assessment area such as Ponthenry Colliery, Pentremawr Colliery, Pentremawr colliery pit head baths, Bath and Elba cottages, Carnawllon Fawr defended enclosure along with the new features identified during the course of this assessment would result in their loss.

It is suggested that Carnawllon Fawr defended enclosure (PRN 5781) along with earthwork feature D be the subject of an archaeological evaluation through trial trenching, prior to the commencement of the proposed coal extraction programme in order to assess and characterise their archaeological significance. Dependent upon the results of the trial trenching further mitigation may be required.

It is also suggested that the extant remains of Pentremawr Colliery (PRN 16373) are photographically recorded. This recommendation is also made for any further unknown extant structures that may be encountered during site clearance.

The potential for previously unknown features within the assessment area can be best mitigated through an archaeological watching brief during initial site clearance and all ground breaking activities.

A further suggestion would be to preserve the Pentremawr Colliery tip (feature H) and winding house base (feature I) *in situ* as features of cultural importance to the area.

Whilst the former presence of Pentremawr Colliery and Pont Henry Colliery may not be of sufficient archaeological significance to warrant a high level of mitigation, their presence may have significance to the local community. The collieries may well be a source of local reminiscence and a focus for local history research. Additionally, given that Pentremawr Colliery closed in the 1980s it is highly likely that former members of the workforce still live in the area. It is also likely that family members of men who worked both at Pentremawr and Pont Henry Colliery still reside locally.

Should any public access be allowed on the site following the final reinstatement works it may be desirable to erect display panels outlining the coal mining heritage of the site and the Gwendreath Valley might be considered. The preservation of Pentremawr Colliery tip (feature H) and winding house base (feature I) would act as a visible reminder of this heritage. An additional option, which would complement this, would be the erection of a memorial to the miners who lost their lives working in the collieries.

SOURCES

Map

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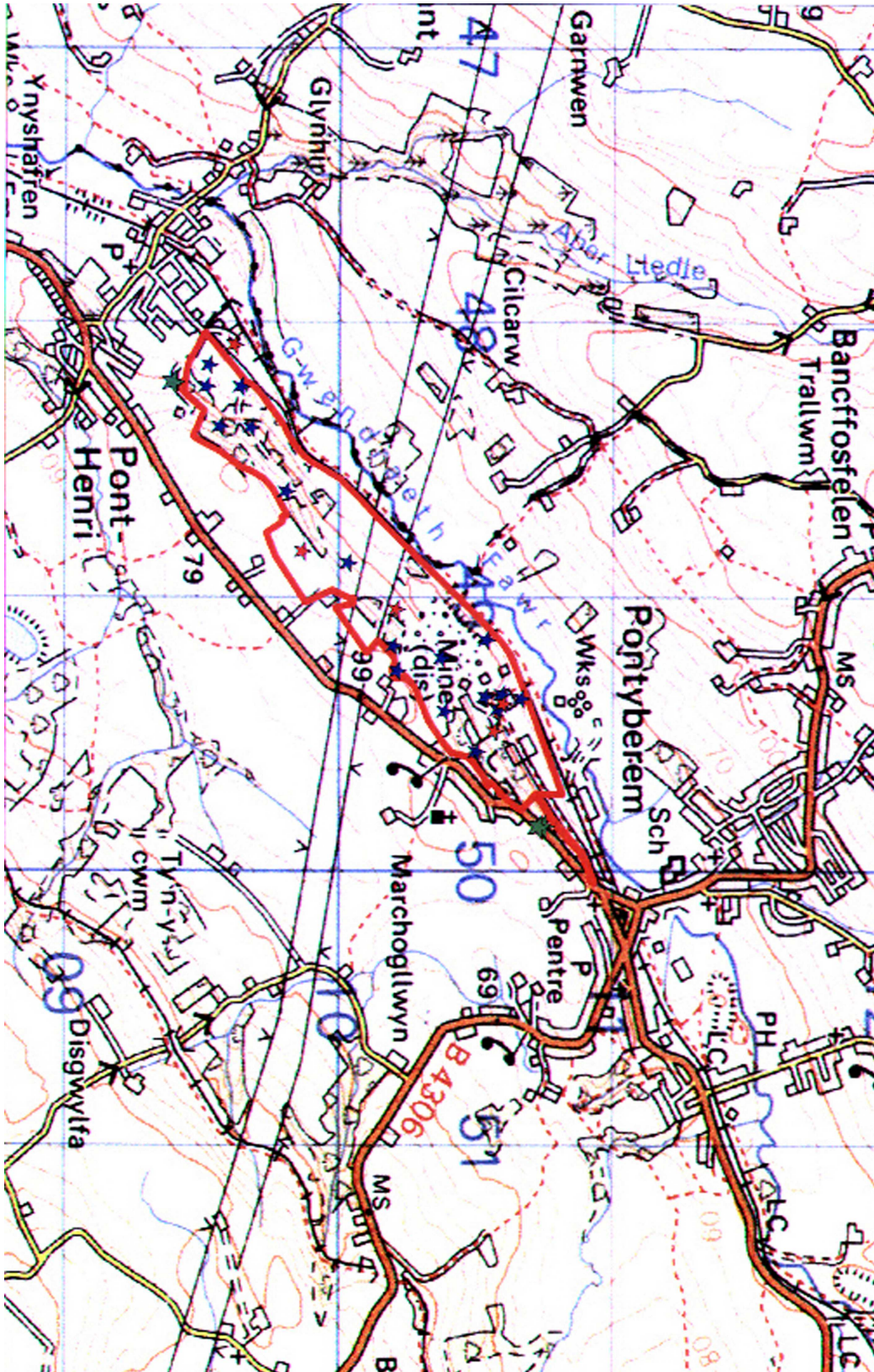


Figure 1: Detail of 1:50000 OS map showing boundary of assessment area in red. New sites affected by development marked with blue stars those not affected marked in green.

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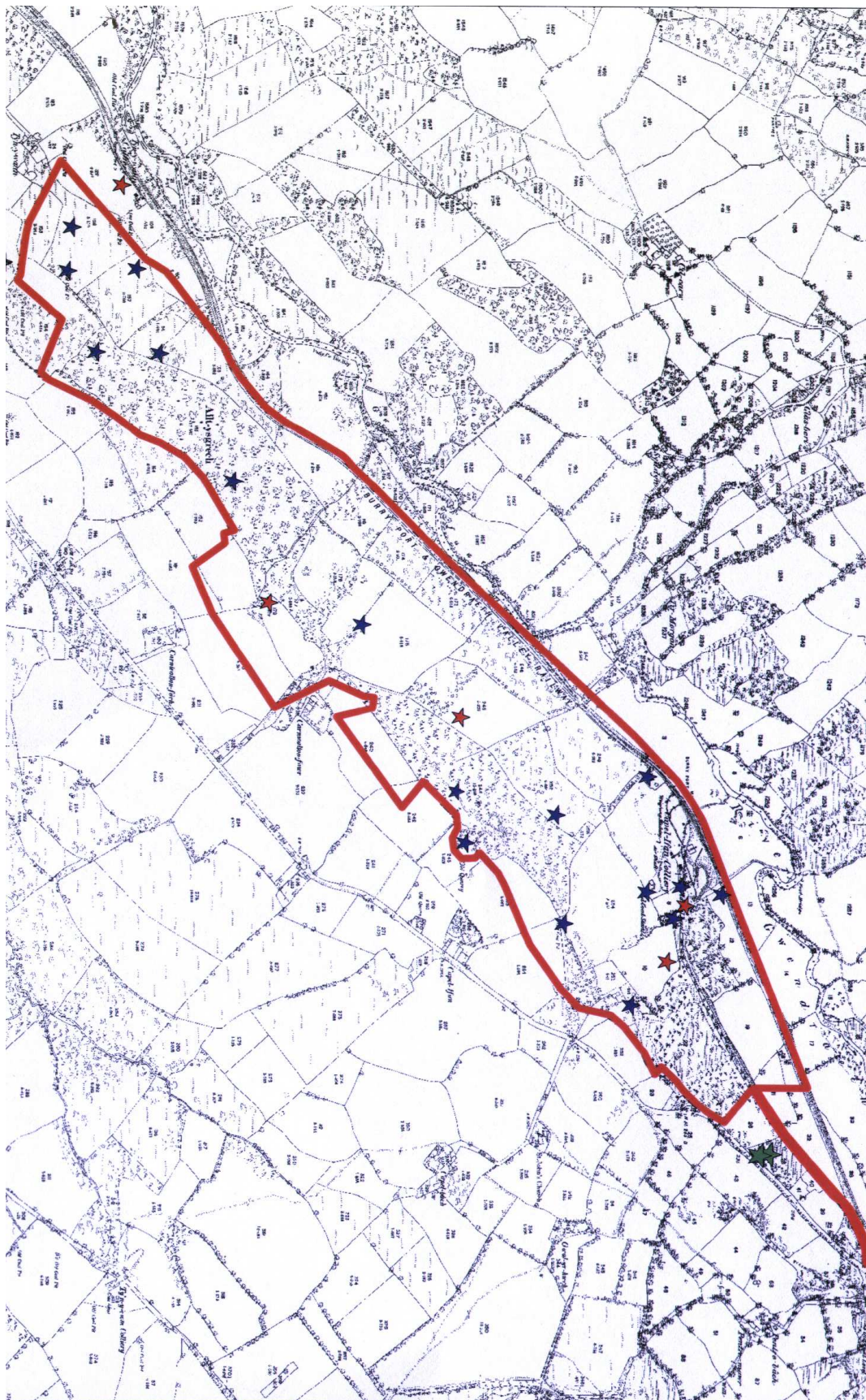


Figure 2: Detail of 1st edition OS 1:2500 map showing proposed coal extraction area (1880)

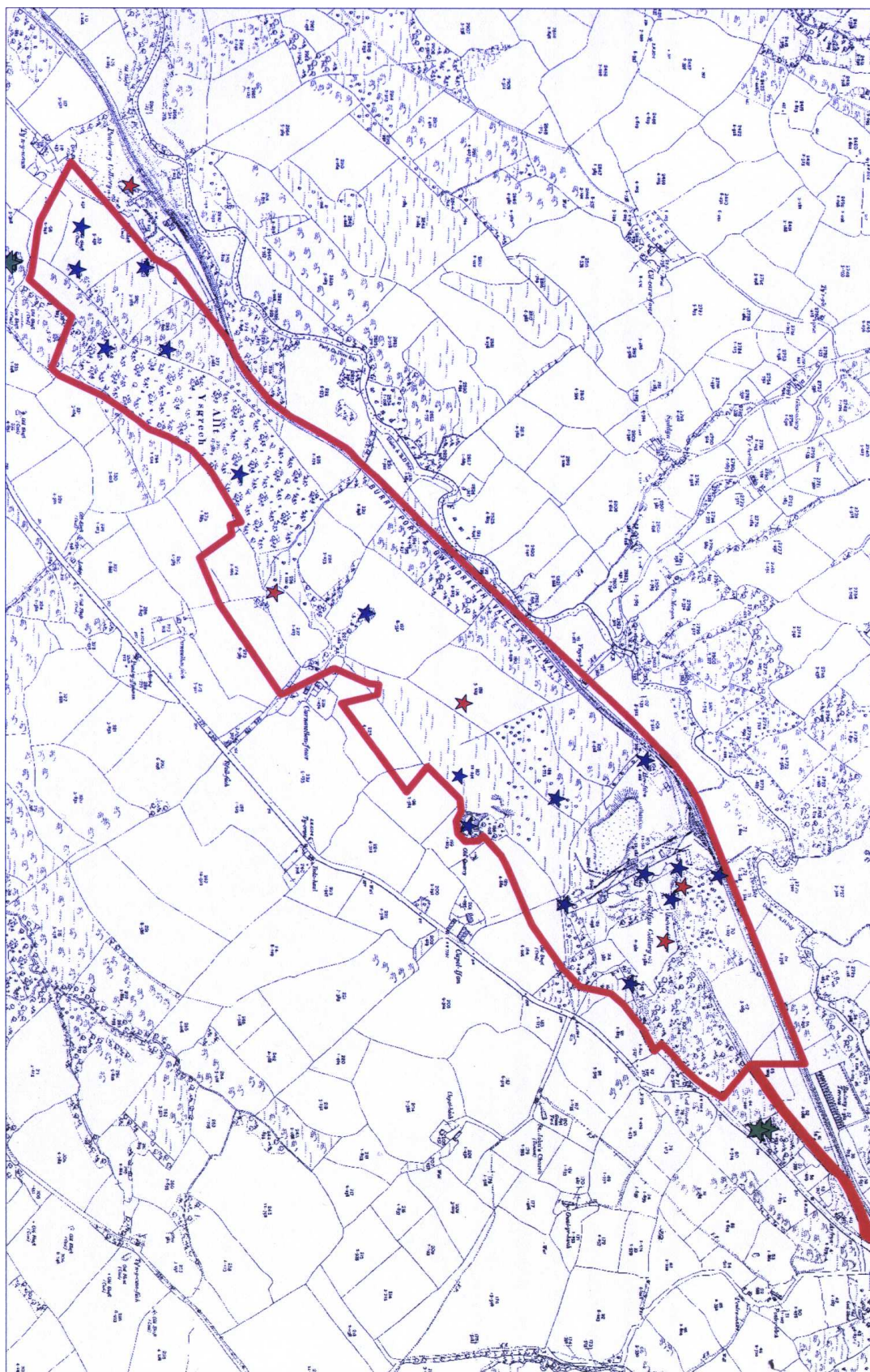


Figure 3: Detail of 2nd edition OS 1:2500 showing proposed coal extraction area (1906)

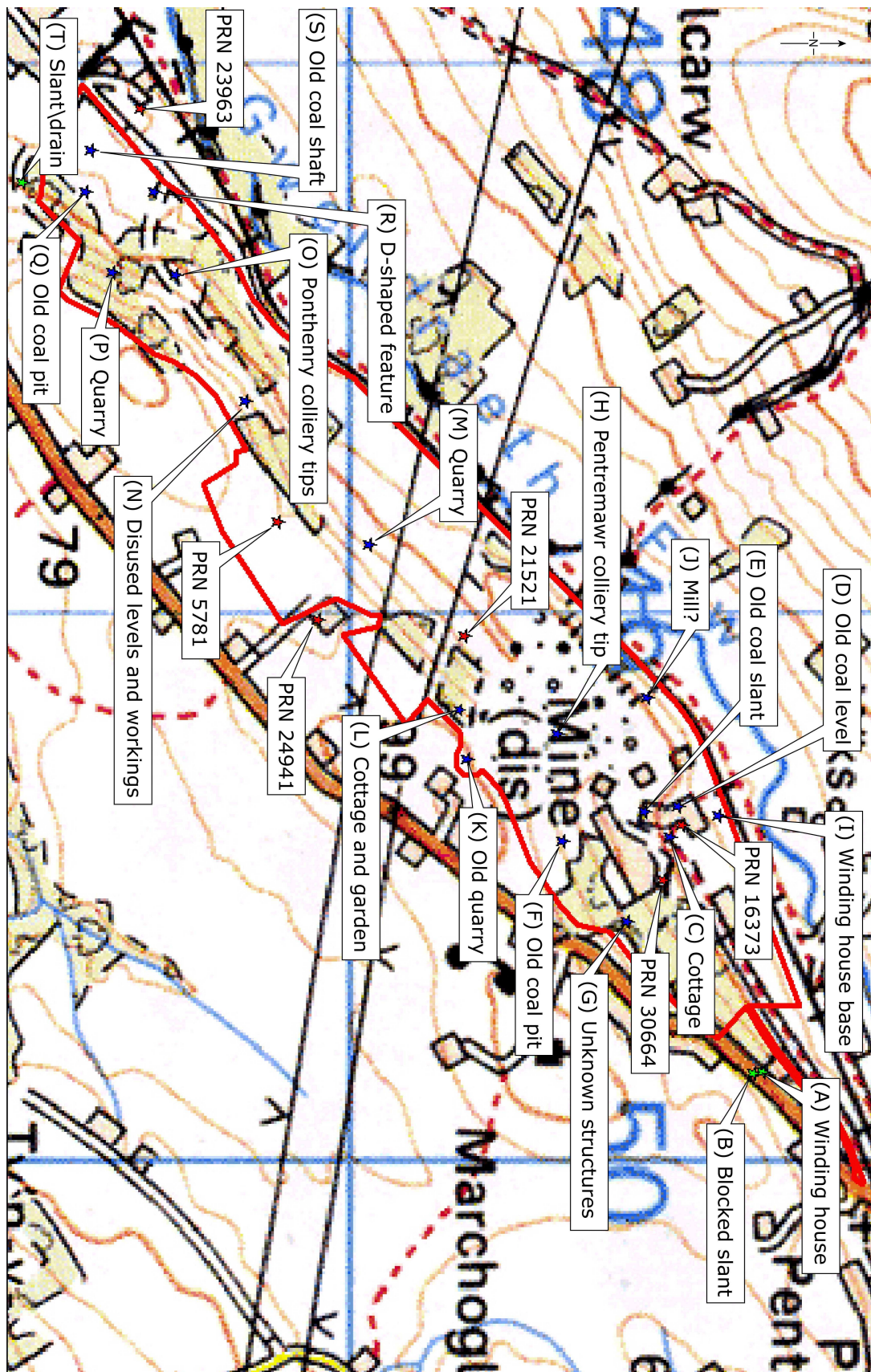


Figure 4: Archaeological sites within development boundary.

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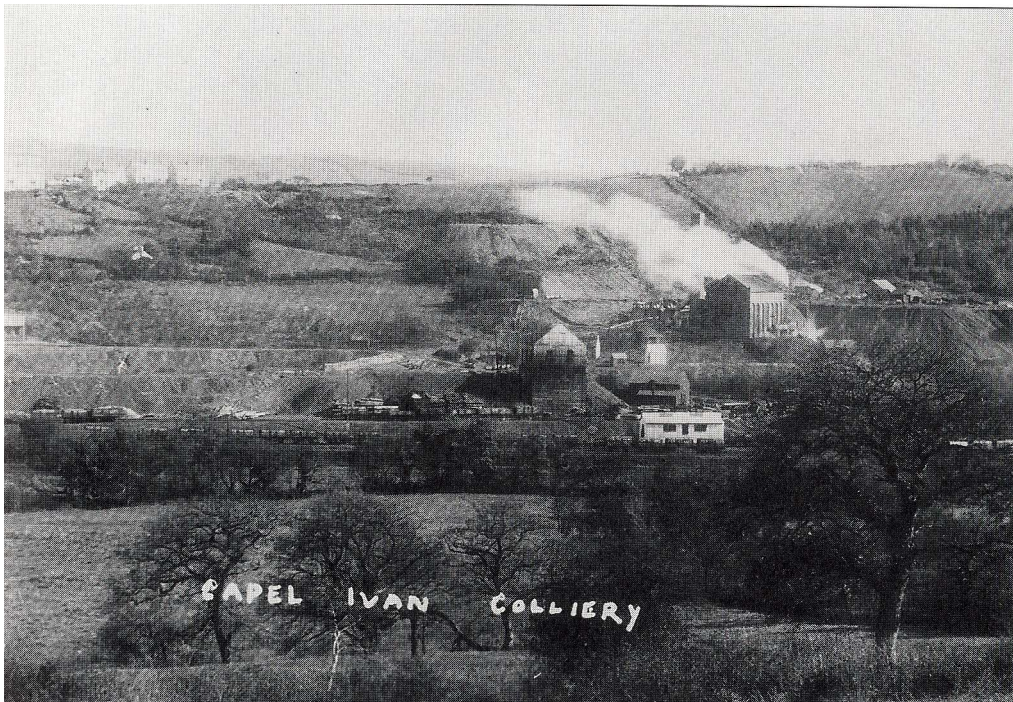


Plate 1: Early 20th century view of Capel Ifan Colliery
(Carmarthenshire County Council).



Plate 2: Miners and Officials, Pentremawr Colliery early 1900s.
(Carmarthenshire County Council)

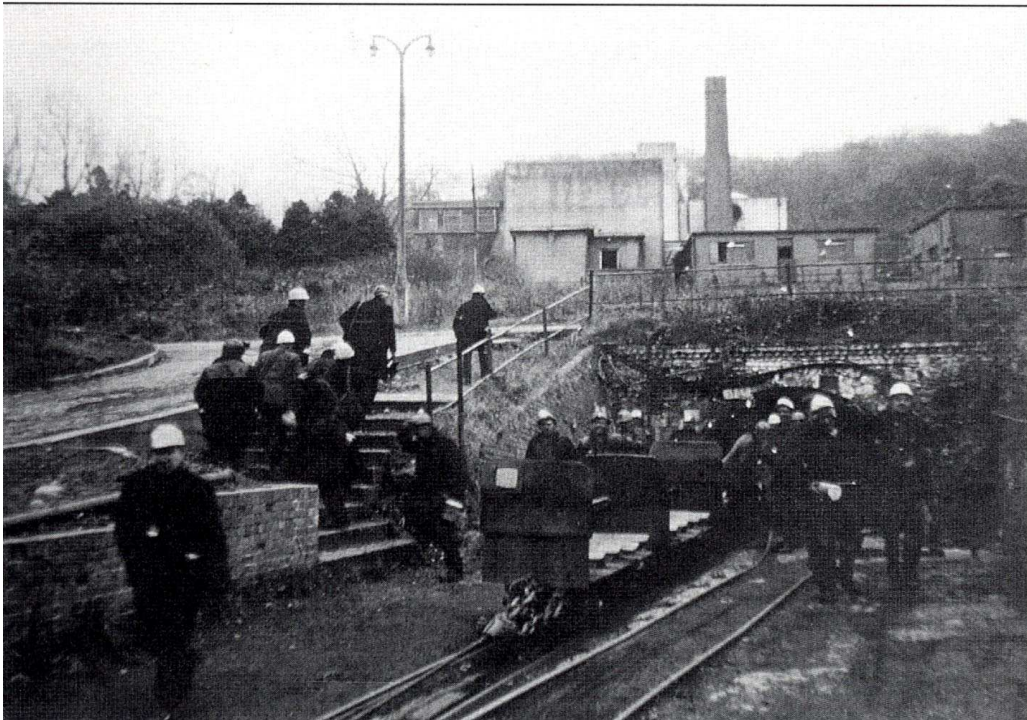


Plate 3: View of Pentremawr Colliery slant with building complex to rear 1968.
(D Owen, 2006).



Plate 4: Pentremawr Colliery No.3 Slant 1972.
(D Owen, 2006).

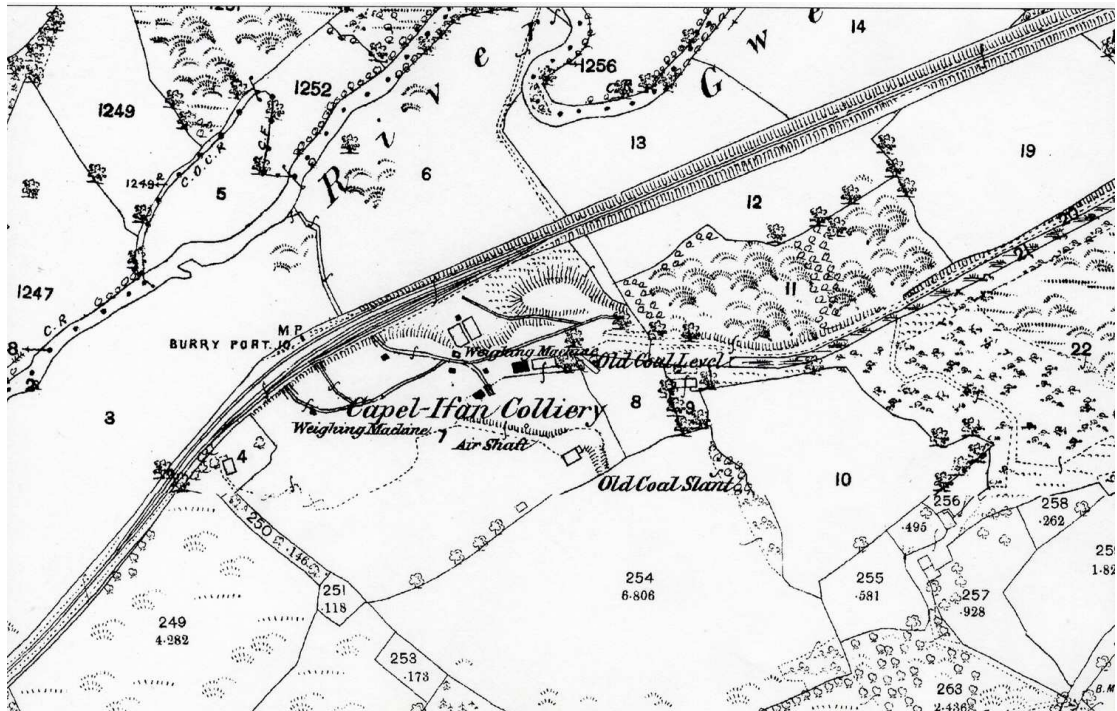


Figure 4: Detail of 1st edition OS map showing layout of Capel Evan Colliery (1880).

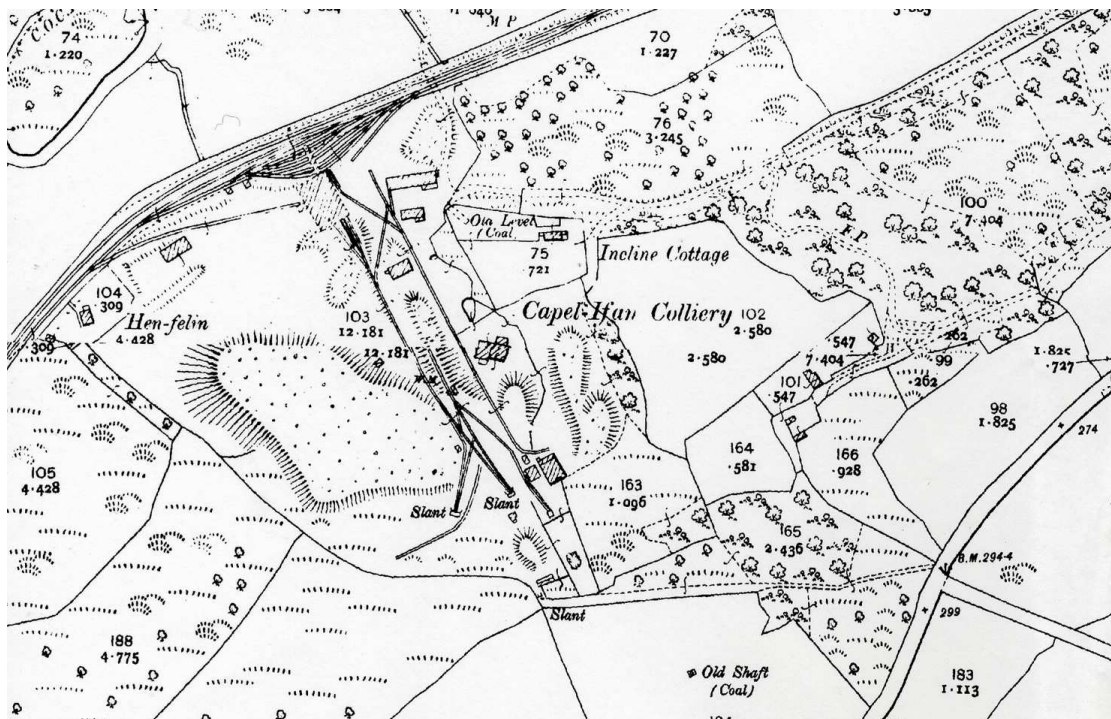


Figure 5: Detail of 2nd edition OS map showing development of Capel Evan Colliery (1906).

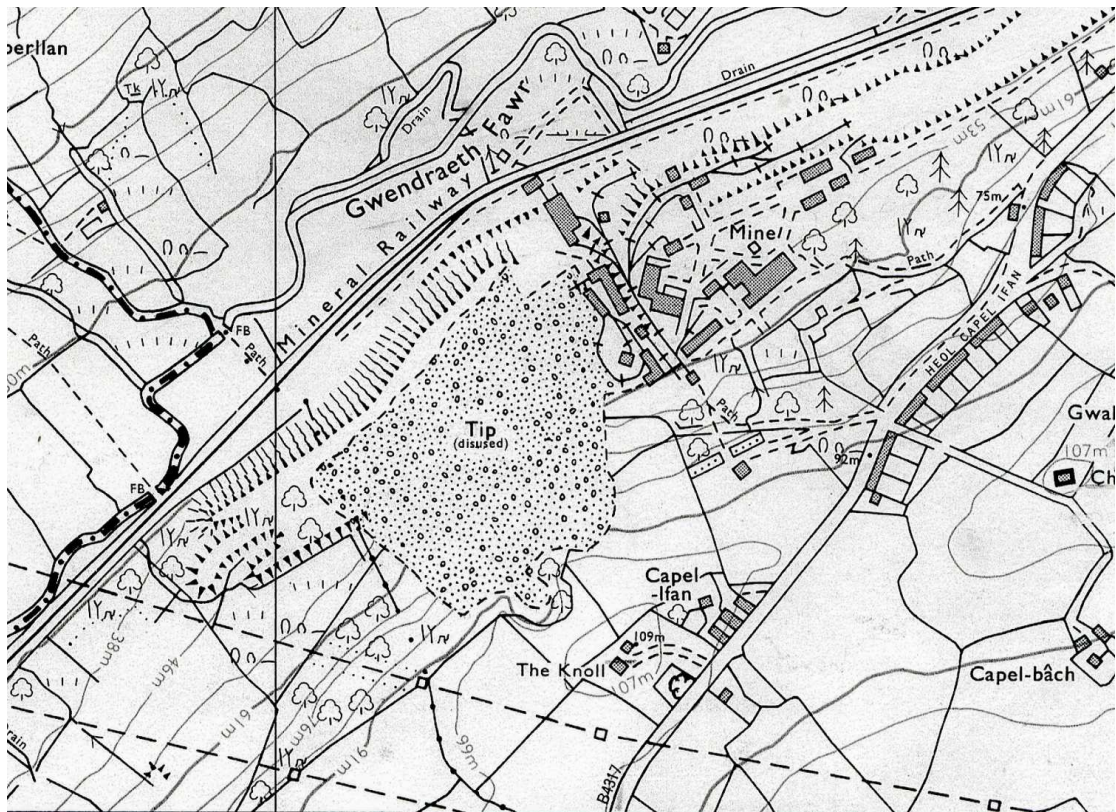


Figure 6: Detail of 1:10560 OS map showing extent of Pentremawr Colliery and buildings.
(1968)

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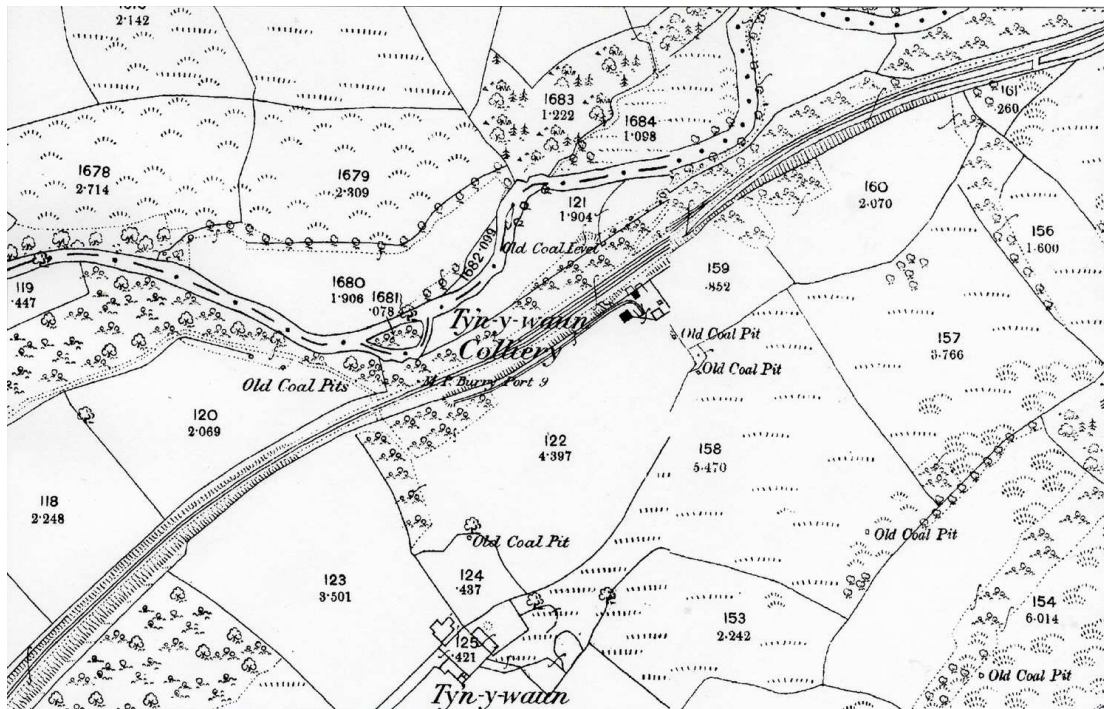


Figure 7: Layout of Ty'n Y Waun Colliery from 1st edition OS map (1880).

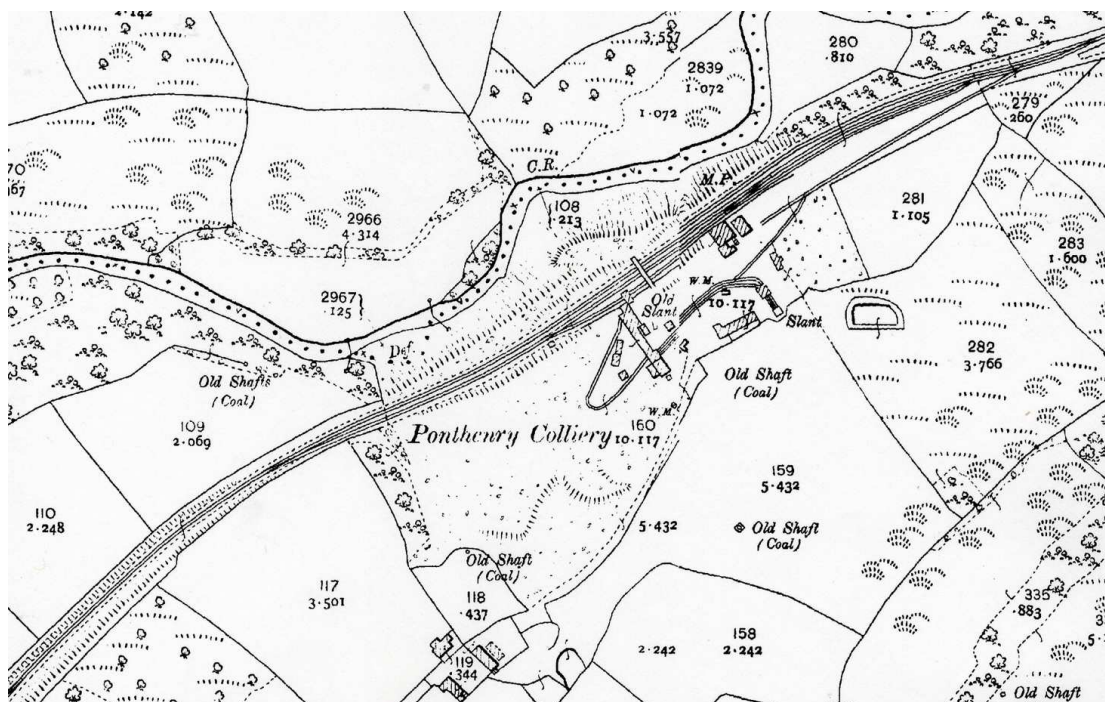


Figure 8: Development of Pont Henry Colliery from 2nd edition OS map. Earthwork feature D visible to east of colliery complex (1906).

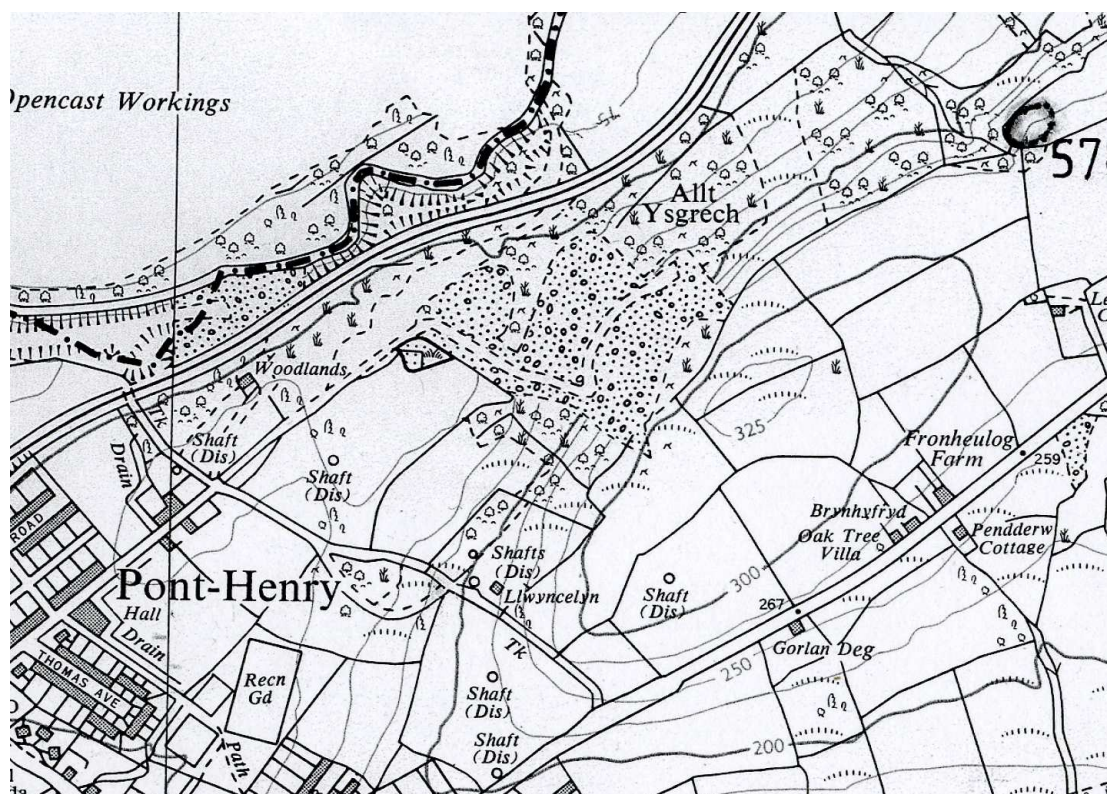


Figure 9: Site of Pont Henry Colliery taken from 1:10560 OS map (1968)

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Plate 5: Former weighbridge at Pentremawr Colliery.



Plate 6: Extant brick and concrete structure, Pentremawr Colliery.



Plate 7: Extant brick structure, Pentremawr Colliery.



Plate 8: Winding house base, Pentremawr Colliery.



Plate 9: Former Burry Port & Gwendreath Valley Railway line.



Plate 10: Existing access road to Pentremawr Colliery site.



Plate 11: Possible earlier colliery winding house to south of access road.



Plate 12: Brick lined slant associated with possible earlier winding house.



Plate 13: Brick lined slant/ drain to west of Llwynceilyn.



Plate 14: Interior of brick lined slant/ drain to west of Llwynceilyn