

# ASSESSMENT OF NON-FERROUS METAL MINES 2002-3



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## ASSESSMENT OF NON-FERROUS METAL MINES 2002-3

Gan / By

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## 1. INTRODUCTION.

Cambria Archaeology's Metal Mines Project (2002-2003) was grant-aided by Cadw: Welsh Historic Monuments. This report covers work undertaken during March 2002 and June-August 2002 when field visits were carried out on 30 selected Metal Mines sites in West Wales. It is additional to an Interim Report on the first 21 mine sites to be visited, which was submitted to Cadw in April 2002.

The project was designed in order to address some of the issues raised by Robert Protheroe-Jones of the National Museum of Wales in 1993, when he undertook the Ceredigion Metal Mines Survey. This involved analysis of the available information for over 200 non-ferrous metal mines in the Ceredigion ore-field, accompanied by the rapid field survey of the more significant mine sites.

Protheroe-Jones' produced an archive of site notes and annotated 1:10560 OS maps, general historical mining data and a detailed bibliography relevant to metal mining in Ceredigion. An enhancement of the Regional Sites and Monuments Record (SMR), held by the Dyfed Archaeological Trust was made at that time, meaning that an almost complete record of metal mining sites in Ceredigion was entered into the SMR database. However, the detail of Robert Protheroe-Jones work was maintained as a paper record only and the mine boundaries only recorded on the SMR's paper record map base. An overview of the archive deposited by Protheroe-Jones is included as an appendix to this report (see Appendix 1).

A second motivating factor for the design of this project was the publication of the Environment Agency's Metal Mines Strategy for Wales in January 2002. This report includes a "priority list" of 50 non-ferrous metal mines across Wales that are perceived to be contributing to environmental pollution and affecting water quality. 42 of these sites are found within the three counties of West Wales, 38 within Ceredigion.

It is the EA's stated intention to consult widely to ascertain the views of relevant stakeholder organisations or individuals in order to be better positioned to design remedial schemes for prioritised metal mine sites that are sensitive to both environmental and archaeological issues. This consultation process ended in March 2002 and a submission of evidence was made by Cambria Archaeology.

Clearly, an opportune moment arose to revisit the work of Protheroe-Jones and also to seek to enhance our knowledge of the metal mines that appear on the EA's priority list in advance of any proposals for remedial work at the sites identified for action. Cambria have therefore made use of the EA's priority list as a basis for our own project design, to ensure that the mine sites most likely to be subject to remedial work in the near future are revisited and sites or features worthy of Scheduled Ancient Monument status identified in advance of any remedial work.

## 2. SITES VISITED

The EA Priority List categorises mine sites, according to the perceived degree of difficulty surrounding the nature of any future remedial work that may be proposed. Thereby;

- Category 1 site would be expected to be relatively straightforward to approach, as there are not expected to be significant diverging issues between the various stakeholder groups consulted (such as Cadw, Cambria Archaeology, CCW, or the Welsh Mines Group).
- Categories 2 and 3a include sites where increasingly problematical divergences of opinion are expected to be encountered, but which are not thought to be insurmountable with proper consultation and discussion.
- Category 3b sites are sites where the divergences of opinion are expected to be so significant as to make progress difficult, perhaps impossible.
- Category 4 sites are sites which may be reviewed and removed from the list, either due to insurmountable difficulties or new information which suggests that remedial work is not required.

For the purposes of this project, it was decided that only sites in Categories 1, 2 and 3a would be included in the assessment, as it is likely that they will indeed be prioritised for remedial action and could be subject to groundworks in the short or medium term.

Category 3b or 4 sites are unlikely to be affected in the short term, if at all and therefore the need to look at these sites was felt to be less pressing at present.

29 mines on the EA Priority List fall into the Categories 1,2 and 3a;

*Table 1: List of Category 1, 2 & 3a mine sites in PRN order*

	NAME	PRN	EA Cat.		NAME	PRN	EA Cat.
1	Bronfloyd	5424	3A	16	Temple	9342	3A
2	Cwmsymlog	5425	3A	17	Llanfyrnach	9703	3A
3	Cwm Rheidol	5472	3A	18	Powell's Llywernog	19839	3A
4	Poole's Llywernog	5604	2	19	Wemyss	23230	3A
5	Llanfair Clydogau	8231	1	20	Logaulas	24586	3A
6	Daren	8337	3A	21	Alltycrib	25833	3A
7	Goginan	8338	2	22	Rheidol United (Rhiwrhigos)	25888	3A
8	Frongoch	9151	3A	23	Rheidol Utd (Gwaith Goch)	25891	3A
9	Level Fawr	9153	3A	24	Caegynon	25897	2
10	Henfwlch	9164	3A	25	Ty'n y Fron	25898	3A
11	Hafan	9166	3A	26	Ystumtuen	25900	3A
12	Bog	9169	2	27	Penrhiw	25901	3A
13	Castell	9171	3A	28	Graig Goch	25917	3A
14	Esgairlle	9173	2	29	Glogfawr	25932	3A
15	Abbey Consols	9310	3A				

### 3. FIELDWORK

Fieldwork was undertaken in two separate blocks. During the first three weeks of March 2002, 21 metal mine sites (Table 2) were the subject of rapid visits by two members of the staff of Cambria Archaeology. Note that Esgairlle mine is counted here as two sites, as Old Esgairlle and Esgairlle are separate but adjoining mines. Therefore the resultant list formed by combining Tables 2 and 3 below is of a total of 30 mines, rather than the 29 mines shown in Table 1.

*Table 2: Category 1, 2 & 3a mine sites visited during March 2002*

	NAME	PRN
1	Bronfloyd	5424
2	Cwm Rheidol	5472
3	Poole's Llywernog	5604
4	Goginan	8838
5	Level Fawr	9153
6	Henfwlch	9164
7	Hafan	9166
8	Bog	9169
9	Esgairlle	9173
10	Abbey Consols	9310
11	Temple	9342
12	Powell's Llywernog	19839
13	Wemyss	23230
14	Old Esgairlle	25868
15	Rheidol United Erwtomau (Rhiwrhigos)	25888
16	Rheidol United Gwaith Goch	25891
17	Caegynon	25897
18	Ty'n y Fron	25898
19	Ystumtuen	25900
20	Penrhiw	25901
21	Graig Goch	25917

The remaining 9 mine sites (Table 3) were visited during the months of June-August, 2002;

*Table 3: List of Category 1, 2 & 3a mine sites visited during June-August 2002*

	NAME	PRN
1	Cwmsymlog	5425
2	Llanfair Clydogau	8231
3	Daren	8337
4	Frongoch	9151
5	Castell	9171
6	Llanfyrnach	9703
7	Logaulas	24586
8	Alltycrib	25833
9	Glogfawr	25932

The rapid field visits undertaken had two chief objectives;

- Ascertain the approximate boundary of the mine, effectively the area of archaeological interest, through a combination of field observation, historic map evidence and with reference to the notes of Robert Protheroe-Jones.
- Identify any sites or features associated with the mine that warranted consideration for scheduling or listing

Other evidence was also noted, where appropriate, in order to enhance the extant record of the mine.

It is important to note here that these visits were not intended to add significantly to the current body of information available. In methodological terms, this project should be seen as a management assessment, not as a detailed archaeological field assessment. Detailed archaeological field assessments of mine features are greatly needed, but beyond the scope of the time and resources allocated to this project.

Information gathered during fieldwork has been entered into the Regional Sites and Monuments Record. Ground photographs and field notes/annotated maps arising from the field visits have been stored in the project archive deposited in the Regional Sites and Monuments Record.

## 4. CONCLUSIONS

Several key conclusions have been arrived at on the basis of the desktop and fieldwork study of the 30 metal mine sites included in this report. The following comments are not necessarily limited to those 30 sites, but have relevance to the management and preservation of non-ferrous metal mining sites across the region.

The degradation of metal mine sites in southwest Wales has proceeded apace since the Ceredigion Metal Mines survey undertaken by Robert Protheroe-Jones, undertaken in 1993. Some evidence of that can be seen at a number of locations described in this report, but other examples are certainly known to this author on the basis of recent fieldwork experience in Ceredigion. It is evident that a range of threats, from human intervention to natural decay and erosion are rapidly diminishing the archaeological resource associated with all sites. Yet, during the same time frame, the perceived value of heritage themes and sites as components in economic, tourism and educational strategies within the region has risen greatly. The need for protecting metal mine sites, improving site access and safety and improving the interpretation and understanding of the mines' histories and surviving features is greater than ever. The loss of our metal mining heritage is clearly disadvantageous to developing strategies that will make heritage a community and economic asset.

The following recommendations may repeat those made by other authors during recent decades, but the critical point has now been reached when action must be taken to preserve such as remains of the best of our metal mining heritage before it is finally lost.

4.1 Relatively few metal mines in the region are currently protected by Scheduled Ancient Monument status. There is clear scope to use scheduling as a management strategy to both protect much more of our mining heritage and also to reinforce the status of mining sites as important heritage sites. Many of the 30 mines covered by this report contain features and blocks of land that need statutory protection.

4.2 It is recognised that scheduling in itself does not halt the decay and loss of features. A wider strategy for the management of mine sites is required that includes the consolidation and restoration of structures. Many of the mines lie within the Upland Ceredigion Landscape of Outstanding Historic Interest (Cadw, CCW & ICOMOS UK, 1998) and form a significant component of the historic landscape. Many sites are also publicly accessible and numerous opportunities exist to turn derelict mines into accessible and enjoyable heritage sites. Support should be forthcoming for national, regional or local strategies to preserve and open up such sites. Prioritisation should be given to supporting the long mooted concept of a Mining Trail, linking the best mine sites and mining landscapes and settlements in Ceredigion.

4.3 It is evident that each of the metal mines visited by this project have archaeological potential that in many instances cannot be properly assessed. At each site where spoil tips or wash material obscure areas of the landscape there exists the potential of buried features surviving, even if the surface evidence is poor. Regardless of statutory protection, the areas defined as being of archaeological interest on the maps that accompany each site report in this document must be respected in any impact assessment as being areas of potentially high archaeological interest and high heritage value.



## 5. SITE REPORTS

The individual mine site reports that follow are arranged in PRN order in accordance with the structure of the Regional SMR. The structure of each site report is divided into “General Description” and “Mine Boundary” sections.

The information gathered during field visits is presented within the General Description section, to include a brief general description of the mine and its landscape context, as well as information on archaeological interest, the definition of the site boundary, the condition of surviving remains and threats to their continued survival. These descriptions are necessarily short and generalised in tone due to the rapid nature of the work undertaken

The necessity to explain a separate definition of each mine boundary arises due to conflicts between the boundaries given by different sources. The main source of information for this project was the work undertaken by Robert Protheroe-Jones in 1993. Protheroe-Jones marks clear boundaries on his field maps based on his understanding of the surface and underground extent of mining operations at each site. However, the history of many mines is made complex by a number of factors, including changes of name, changes of ownership, changes in the focus of activity and, frequently, the tendency for neighbouring mines to be periodically worked as a single operation, rather than separate ventures. For this reason, there are certainly discrepancies between Protheroe-Jones’ mine boundaries and those that have been published in the Environment Agency’s Metal Mines Strategy document in 2003. It is not possible, therefore, to produce a definitive boundary map at present for any of the mines considered by this report and the notes included in each site report simply outline the areas considered by Cambria during 2002.

## **5.1 BRONFLOYD PRN 5424 - SAM Cd 152 SN660834**

### **General Description**

Mining activity at Bronfloyd is known to date back to the 17th century. The majority of the surface remains seen here now date to the expansion of the mine after 1850 and include relatively well-preserved evidence for most of the processes associated with ore extraction and processing, as well as power generation. The coherence and relatively well-preserved condition of the features at Bronfloyd have led to much of the site being designated as a Scheduled Ancient Monument by Cadw.

The remains of the mine lie in a now quiet valley and in a wholly rural context. Only two occupied farms or smallholdings are situated within sight of the mine and the surrounding landscape is largely one of pasture fields, with some small woodland parcels on and adjacent to the mine site itself. The surrounding landscape has been influenced by mining activity. Two smaller mines are found in adjacent land parcels; Llechwedd Hen to the east and Cefnllwyd to the southwest. Other related mining features include the leats which brought water to the Bronfloyd mine from the east as well as a leat and water wheel to the west which provided motive power for the mine and are therefore integral to the mine complex.

The conservation of standing structures is a major issue facing this mine site. Well-preserved structures such as the ore bins are now showing signs of decay. Clearly it is degradation through natural erosion and decay that threatens the continued existence of all the standing structures at the site. Earthwork features such as old shaft sites and spoilt tips appear relatively stable.

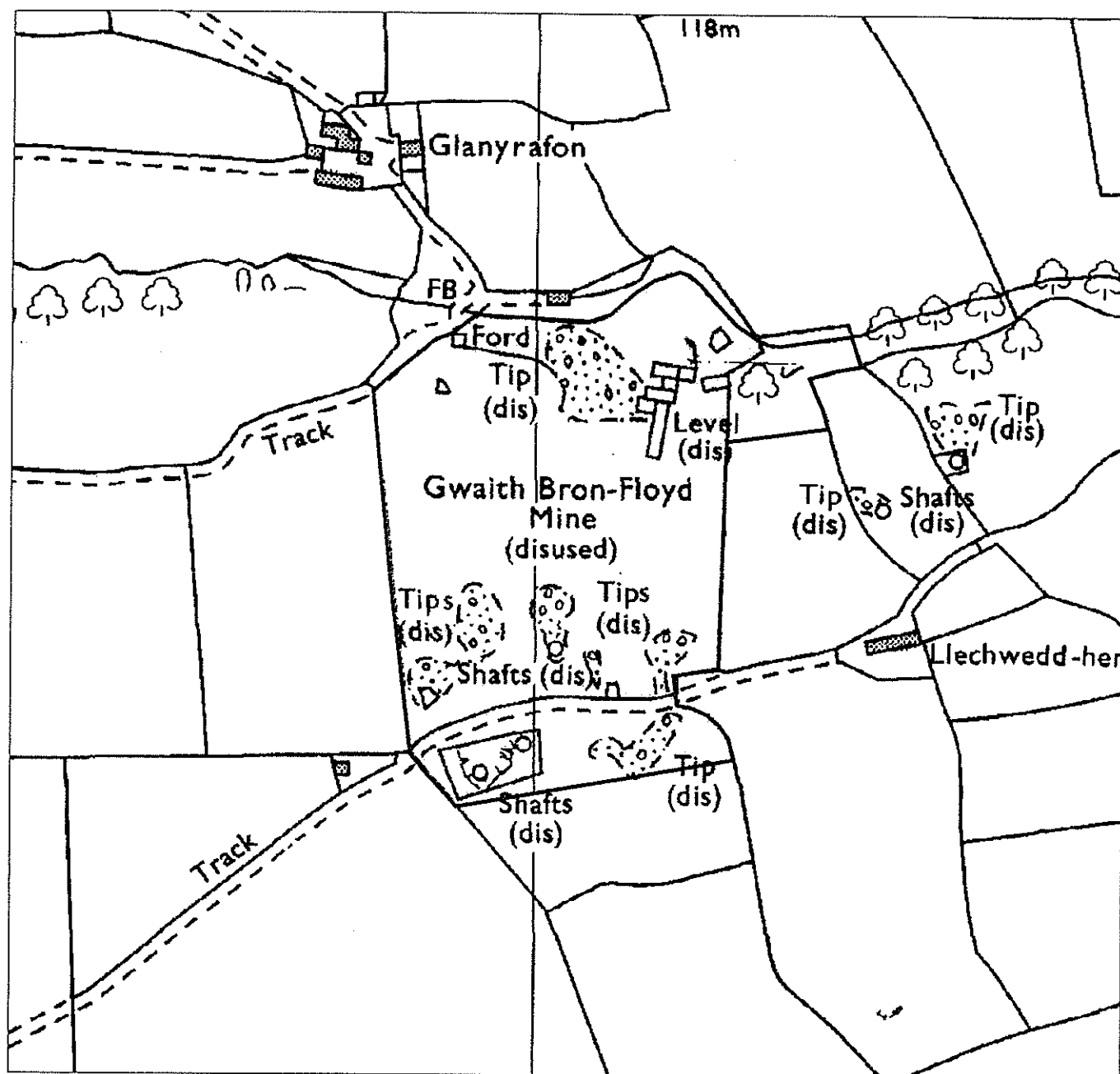
### **Mine Boundary**

The boundary of the mine, as defined on the accompanying map, is based on the scheduled area already defined by Cadw, extended to include some adjacent land which can be seen to be integral to the mine complex on late 19th century OS maps and which include surviving remains.

Metal Mines Project 2002-03

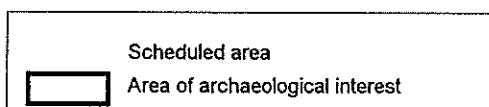
Map 1: Bronfloyd Mine PRN 5424 / SAM CD 152

Scale 1:4000



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## 5.2 CWMSYMLOG PRN 5425 - SAM Cd 159SN698837

### General Description

In the assessment of the Welsh Mines Society, Cwmsymlog is one of the most important mining sites in mid Wales, with surviving features dating to the late medieval period through the 16th to the late 19th century. Hugh Myddleton mined here and amongst the earliest workings on the site is Myddleton's Level, a coffin shaped level which can still be seen entering the hill alongside a trackway at the eastern end of the complex. The names of a number of prominent figures in the history of mining in Ceredigion are associated with a number of workings, such as Taylor's Shaft, Pryse's Shaft and Bushell's Shaft. Others who endeavoured to develop the mine are commemorated in the names of other workings, such as Hodges Shaft, Skinners Shaft, Reid's Shaft and Dickinson's Level.

The mine has suffered considerable disturbance through modern landscape reclamation at its western end, and by forestry operations at its eastern end. Significant structural and earthwork remains survive however, some of which already have Scheduled Ancient Monument status. The SAM area is focused on the old engine house chimney towards the centre of the mine complex and the nearby Pryse's Shaft, a stone collared shaft which remains open and in good condition. The chimney also remains in good condition and is an impressive and evocative landmark.

For purposes of description, the mine complex can be broken down into two sections. The area between Cwmsymlog settlement and the lake of Llyn Pendam at the head of the valley to the east includes the SAM area and also most of the shafts and levels associated with the mining process. There are also extensive tips of development rock, some of the wheelpits associated with providing power to raise rock from the underground workings and also some of the reservoirs and leats, which were built to provide the water that gave motive power to the whole complex. It is possible that some of the adits below Llyn Pendam are late medieval in date and there are certainly 16<sup>th</sup> century workings in this part of the mine. To the south of the Pendam dam is an area of clear felled forestry and open pasture ground which bears traces of what appear to be trial workings of unknown date. Across this whole of this area it can be said that there is likely to be a high potential that sub-surface archaeological features survive, although the planting (and recent felling) of conifers may have reduced that potential to some degree. An unusual surface survival is a 19<sup>th</sup> century wheel driver's house (Ty'r Rhod) along with its associated wheelpit, Skinners Shaft, and two balance bob pits.

There are a few 19<sup>th</sup> century shafts still surviving in the western part of the mine. The level of disturbance in this part of the mine is severe, with many of the finer spoil tips having been removed, and virtually all traces of the processing works that once stood here. There would appear to have been significant sub-surface disturbance in this area as well, although fragmentary traces of masonry and timbers protruding through some of the spoil tips indicates that some archaeological potential remains even here. One of the few intact features seen by Protheroe-Jones in 1993 in the western part of the mine was a fine wheelpit close to the river at the western extremity of the complex, but it was not accessed in 2002.

Despite the large lake of Llyn Pendam being located at the head of the valley, and smaller reservoirs fed by minor streams being located on the valley floor closer to the mine, old leat systems brought water to drive machinery at the mine from the west, effectively carrying the water up the valley. Some of these leats run for several kilometres to the northwest and north, to their ultimate source, a tremendous feat of engineering that link the Cwmsymlog mine to the wider landscape.

The industrial character of the Cwmsymlog mine complex is enhanced by the continued occupation of old miners' cottages and other dwellings in the village, as well as a surviving 19<sup>th</sup> century Baptist chapel, built when a thriving mining community existed here. The ruins of Hugh Myddleton's Chapel, built to serve miners in the 16th century can be seen on the southern side of the valley.

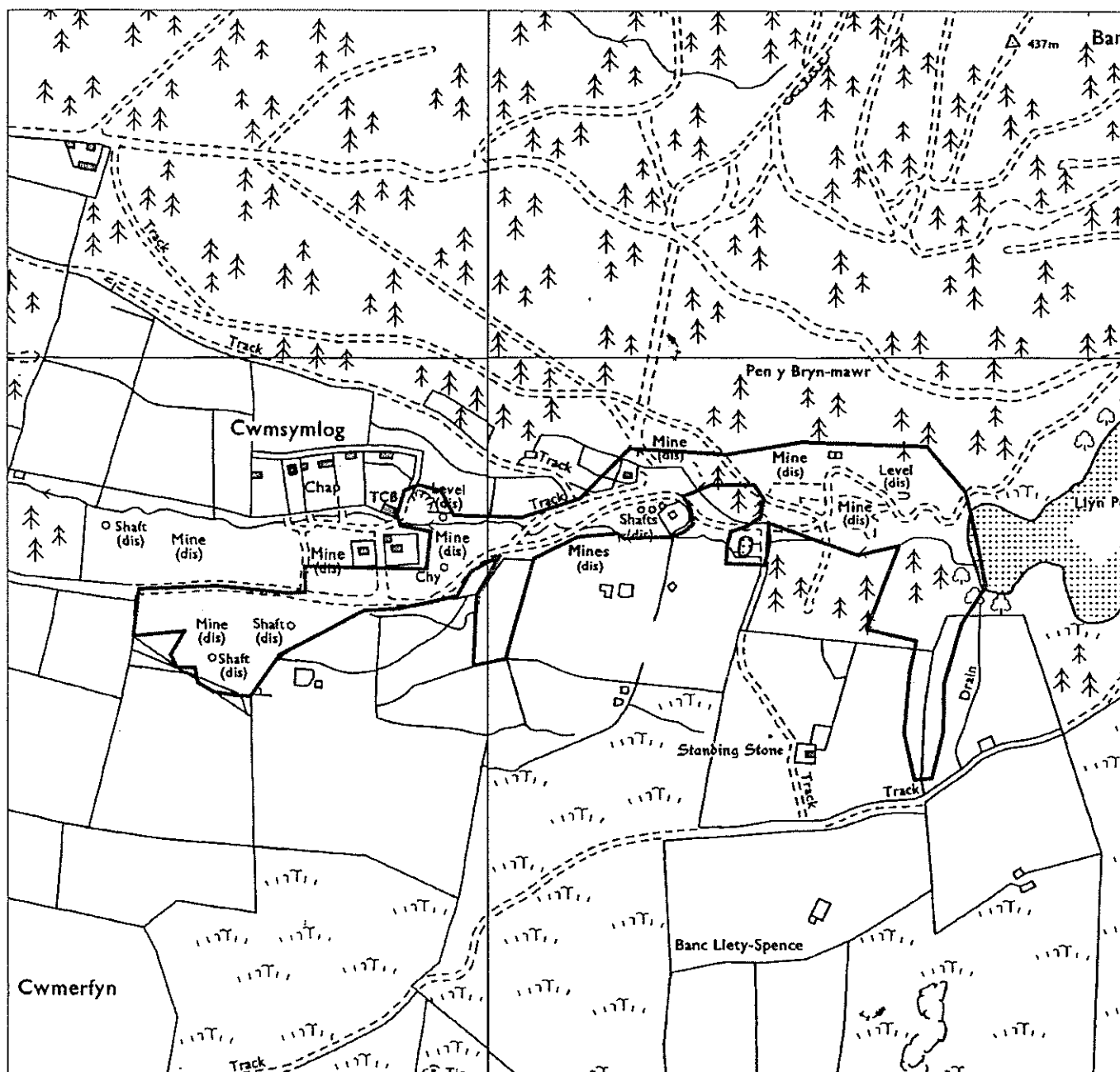
### **Mine Boundary**

The mine boundary shown on the accompanying map is based on the area of activity shown by the 1<sup>st</sup> and 2<sup>nd</sup> edition 1:10560 OS maps with some extension to the eastern end of the complex based on recent field observation.

# Metal Mines Project 2002-03

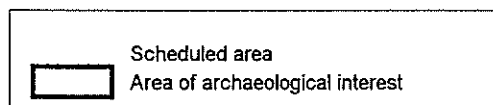
## Map 2: Cwmsymlog Mine PRN 5425 / SAM CD 159

Scale 1:8000



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### **5.3 CWMRHEIDOL PRN 5472 SN731783**

#### **General Description**

The Cwmrheidol Mine is an early 20th century mine, which must rank amongst the best preserved of the mine sites in the district in terms of surface remains. The crusher house and ore preparation area are well preserved and the bulk of the mine area relatively undisturbed, despite the loss of elements of the standing structures recorded here during the 1970s and 1980s, such as timbers and tin sheet roofing and walling.

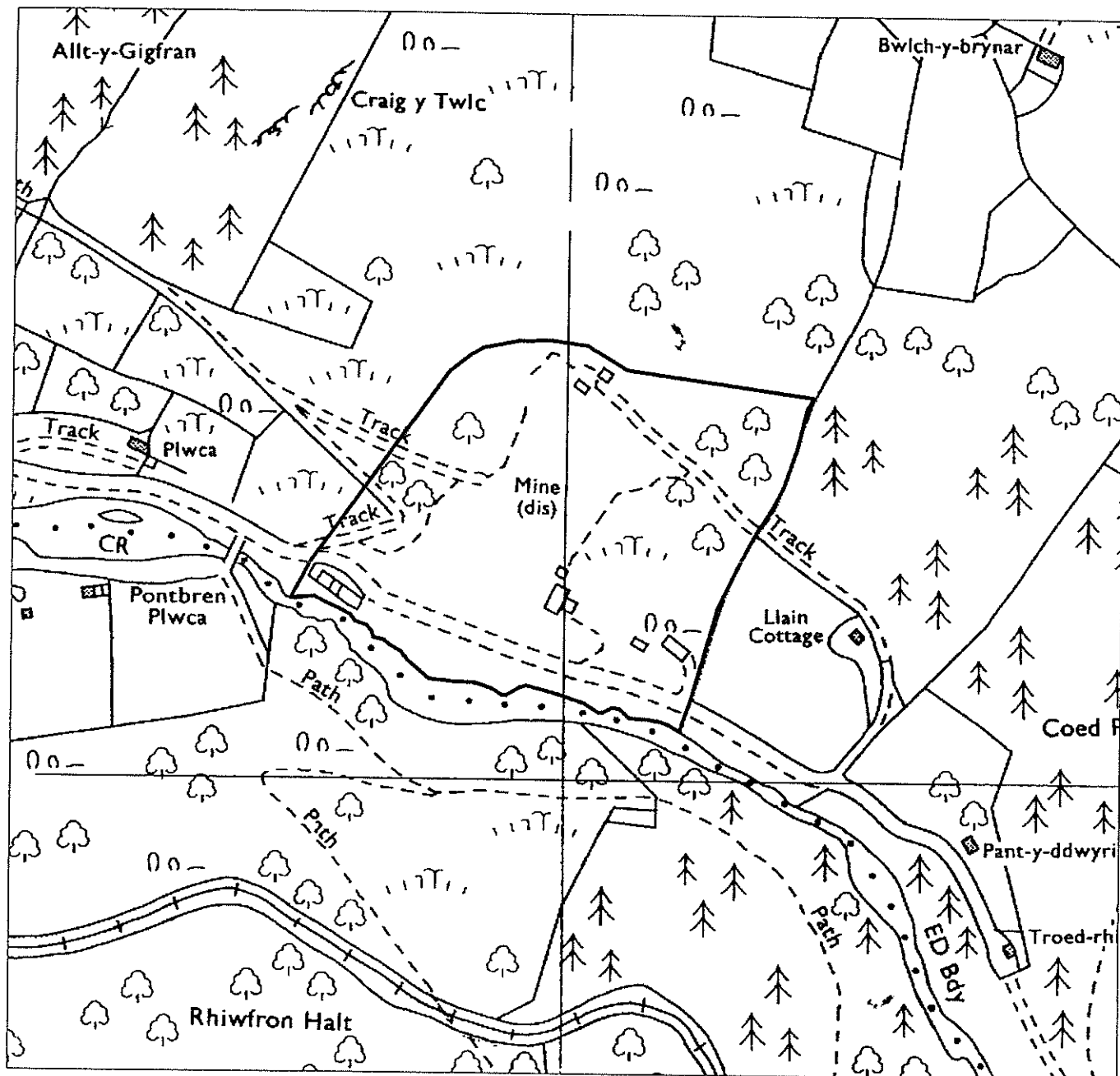
The mine remains an impressive landscape feature, particularly due to the reddish hue of some spoil tips derived from the processing of ochre mined at the nearby Tynyfron site.

Cwmrheidol is linked to the wider mining landscape by both underground and surface features. The Alderson Level, driven into the hill at the top of the mine area, extends some distance towards Ystumtuen and is hydrologically linked to other mines in that direction. A tramway bed can still be seen linking the ore processing area at Cwmrheidol with the Tynyfron Mine to the west, and an aerial ropeway formerly linked Cwmrheidol to the Vale of Rheidol railway that passes along the valley to the south.

#### **Mine Boundary**

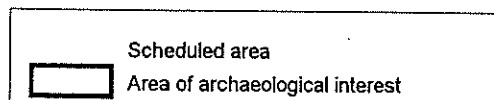
The mine boundary, as defined for this report, is based on the area of activity shown on the 2nd edition 1:10560 OS map.

Metal Mines Project 2002-03  
 Map 3: Cwm Rheidiol Mine PRN 5472  
 Scale 1:5000



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## **5.4 POOLE'S LYWERNOG PRN 5604 - SAM Cd 158 SN732809**

### **General Description**

This 19th century mine complex is now home to the Llywernog Silver Lead Mine Museum. Several of the mine buildings and other structures enjoy listed-status. These have been restored and are in use as a part of the museum complex, which includes access to underground workings. Two parts of the mine complex currently have SAM status (see accompanying map).

Llywernog is set in a wider mining landscape, with Powell's Mine to the west and Bog mine to the east. The landscape is crossed by several water leats to the north of the site.

The Llywernog Silver Lead Museum is almost unique in the region as a restored and interpreted metal mine complex and as such has to be considered central to any future strategy developed to preserve, enhance and interpret the metal mining heritage of Mid and West Wales.

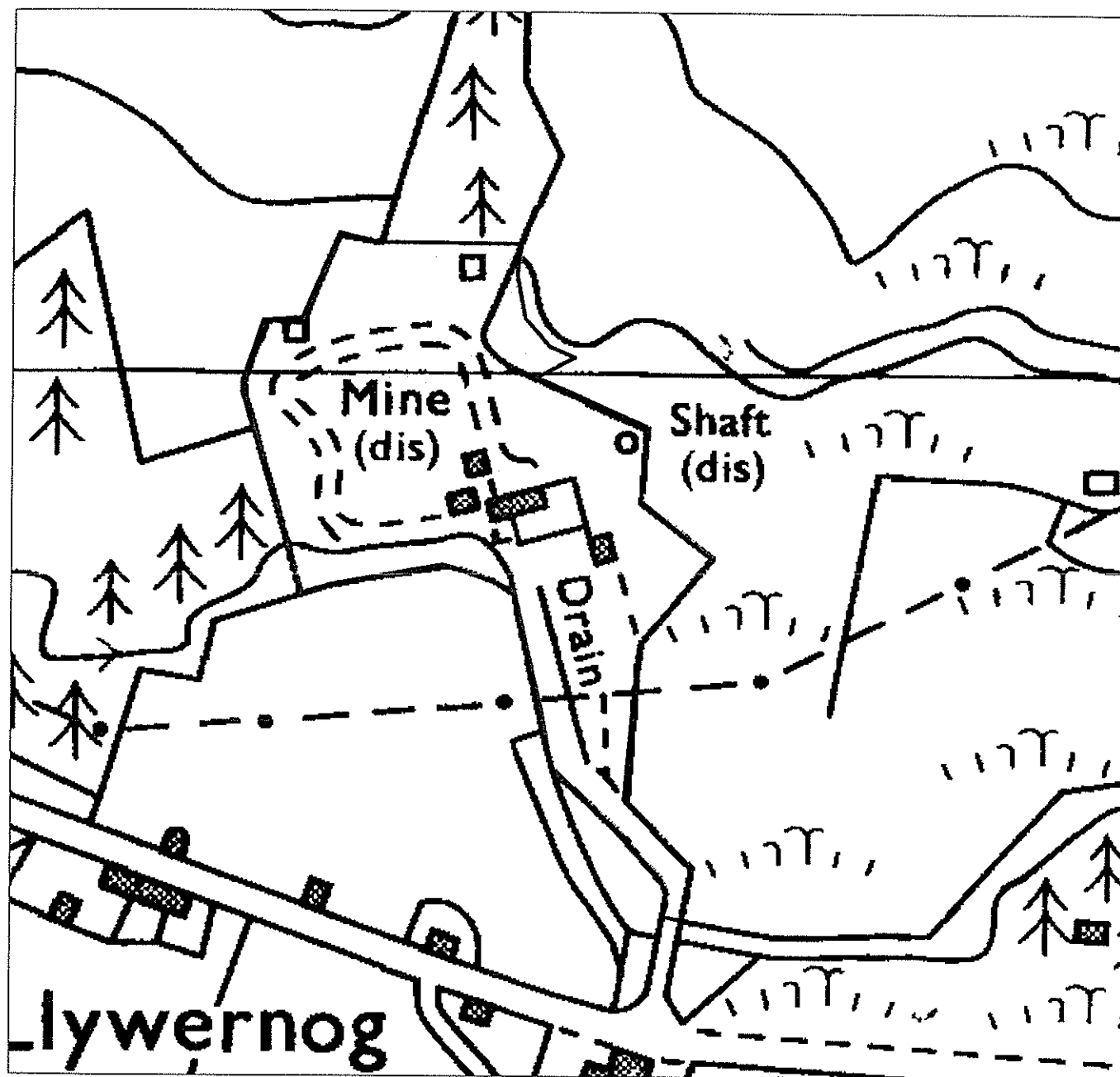
### **Mine Boundary**

The boundary of the mine shown on the accompanying map was provided by the current owner, amended to include the whole of the SAM area at the northern end of the site, part of which lies outside the modern property boundary.

Metal Mines Project 2002-03

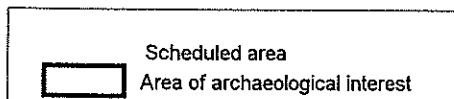
Map 4: Poole's Llywernog Mine PRN 5604 / SAM CD 158

Scale 1:2500



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## 5.5 LLANFAIR CLYDOGAU PRN 8231 SN627512

### General description

There is little documented history of this mine before the 19<sup>th</sup> century, although lead and silver ore was certainly mined here prior to that. As a silver-rich mine, it has become associated with a tradition that it was worked in Roman times, but there is no evidence to support this.

The following description of the mine in 1833 gives some idea of the importance of the only true silver mine in the Ceredigion ore-field;

*“A valuable mine of lead-ore, containing a considerable proportion of silver, and in which also are found quartz, spar, and a small quantity of copper-ore, has been worked for the last twenty years with considerable success, though in dry seasons during that period the works have been frequently suspended from want of water sufficient to give motion to the machinery employed: these works are at present carried on at a depth of two hundred and fifty feet below the surface, and offer sufficient encouragement for the continuance of the operations : the average produce of this mine, which is the property of Lord Carrington, is twenty-five tons of ore per annum, each ton of which contains upon an average from seventy-five to eighty ounces of pure silver.” (Samuel Lewis, 1833)*

The surviving evidence of mining activity at Llanfair Clydogau appears to be confined to a narrow strip of land along the banks of the Nant Clywedog river immediately south of Llanfair Clydogau village. Nearly all of the features are in poor condition, with shafts infilled or collapsed. The only area of ground which has distinctive surface evidence of mining activity are the already disturbed spoil tips at the western end of the mine area, on the northern bank of the Clywedog. These tips may overlie evidence of earlier activity that survive as archaeological features. It is clear therefore that some unrecorded features survive here and that Llanfair Clydogau mine retains some archaeological potential.

Some unrecorded features were observed when the site was visited in 2002. A footpath that runs parallel to the river on this side gives access to this area from the main road. Along this track can be seen unmapped features, the path itself following a raised embankment which runs into a revetted “channel” at its eastern end. This feature may be an old tramway or track associated with the mine. On the northern side of the footpath, built against the field boundary, are at least three small, stone lined rectilinear depressions that may also be associated with mining activity.

It is evident that some former mine buildings may survive within the present village, although no assessment has yet been made of the extent and nature of this built resource. It should be expected that the dwellings of mine managers and workers survive in the settlement as well as former mine buildings. The former Count House and Smithy complex survives as a house now called ‘Silver Mines Cottage’

A leat system connecting the mine to the Clywedog stream, which is in turn fed by a reservoir called ‘Llyn-y-Gwaith’, in the hills some distance to the east.

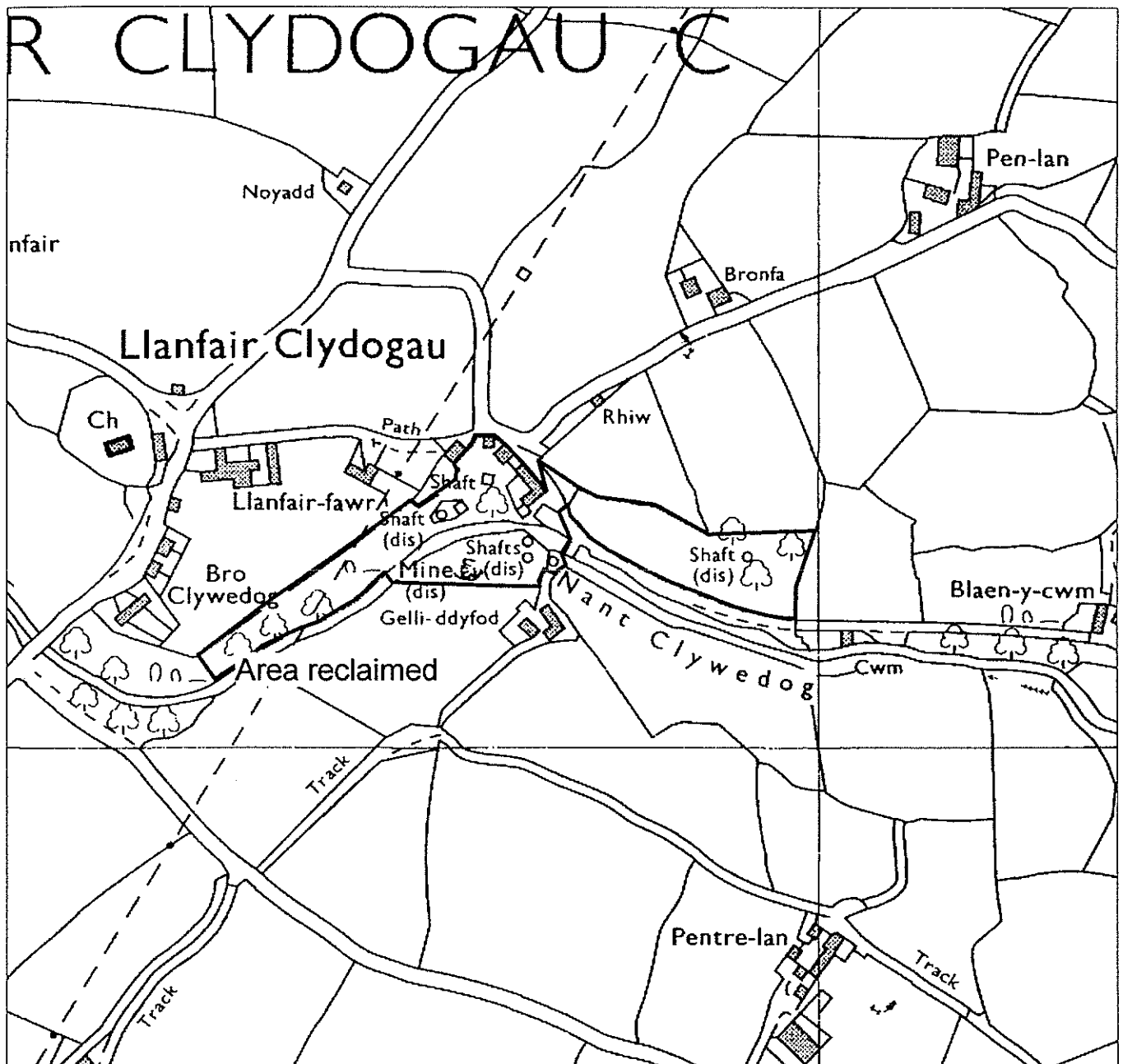
### Mine Boundary

The area of archaeological significance shown on the accompanying map is defined by the mine boundary shown on the 1<sup>st</sup> and 2<sup>nd</sup> edition 1:10560 OS maps.

Metal Mines Project 2002-03

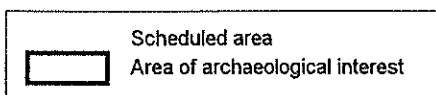
Map 5: Llanfair Clydogau Mine PRN 8231

Scale 1:5000



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### **General Description**

The Daren mine was one of the most important in Ceredigion. There was probable prehistoric activity here and the mine flourished from the 17<sup>th</sup> until the early 20<sup>th</sup> century. The industrial character of the area is enhanced by the old miners cottages in Daren and Penybonthrydybeddau villages.

Evidence of mining activity is now best preserved in an area stretching from west of Darren Farm northeast over the ridge and down to the stream opposite Cwmdarren. This includes a large opencut working that cuts across the ridge-top on a northeast-southwest axis, and notable spoil tips that cascade down the slopes above Coed y Darren at the northeastern end of the opencut, forming a significant landscape feature. A series of drainage levels cut into the slope at this end are now blocked by collapsed spoil material and a number of fold shafts have been capped by concrete plugs and steel grills in modern times. There has been significant disturbance of the lower spoilt tips above Cwmdarren, where a County Council or private storage depot has been built.

17th century activity was focused at the southwestern end of the opencut, west of Darren Farm. Most of the features here are slight earthworks, with some collapsed airshafts and vegetated spoil tips. Bushell's Level, which was probably associated with these features, is no longer visible. There are also early 19<sup>th</sup> century shafts and features to the north and west of Darren Farm. These too appear to be very degraded, but this whole area is assessed as having significant potential in terms of the preservation of sub-surface archaeological features. This area already has SAM status.

Some 800m west of the workings at the northeastern end of the opencut was the late 19<sup>th</sup> century ore-processing mill, which forms a detached block of land with archaeological interest. Surface remains here are ephemeral, but it is still possible to trace some features in the field that are shown by the late 19<sup>th</sup> century OS map survey. This area was connected to the mine by a tramway, which can still be traced in part running through Coed y Darren, although for most of its course it appears to have been widened and levelled by modern forestry operations. Adjacent to the mine is PRN 2023 Pen y Darren Iron Age Hillfort, also a SAM Cd 28.

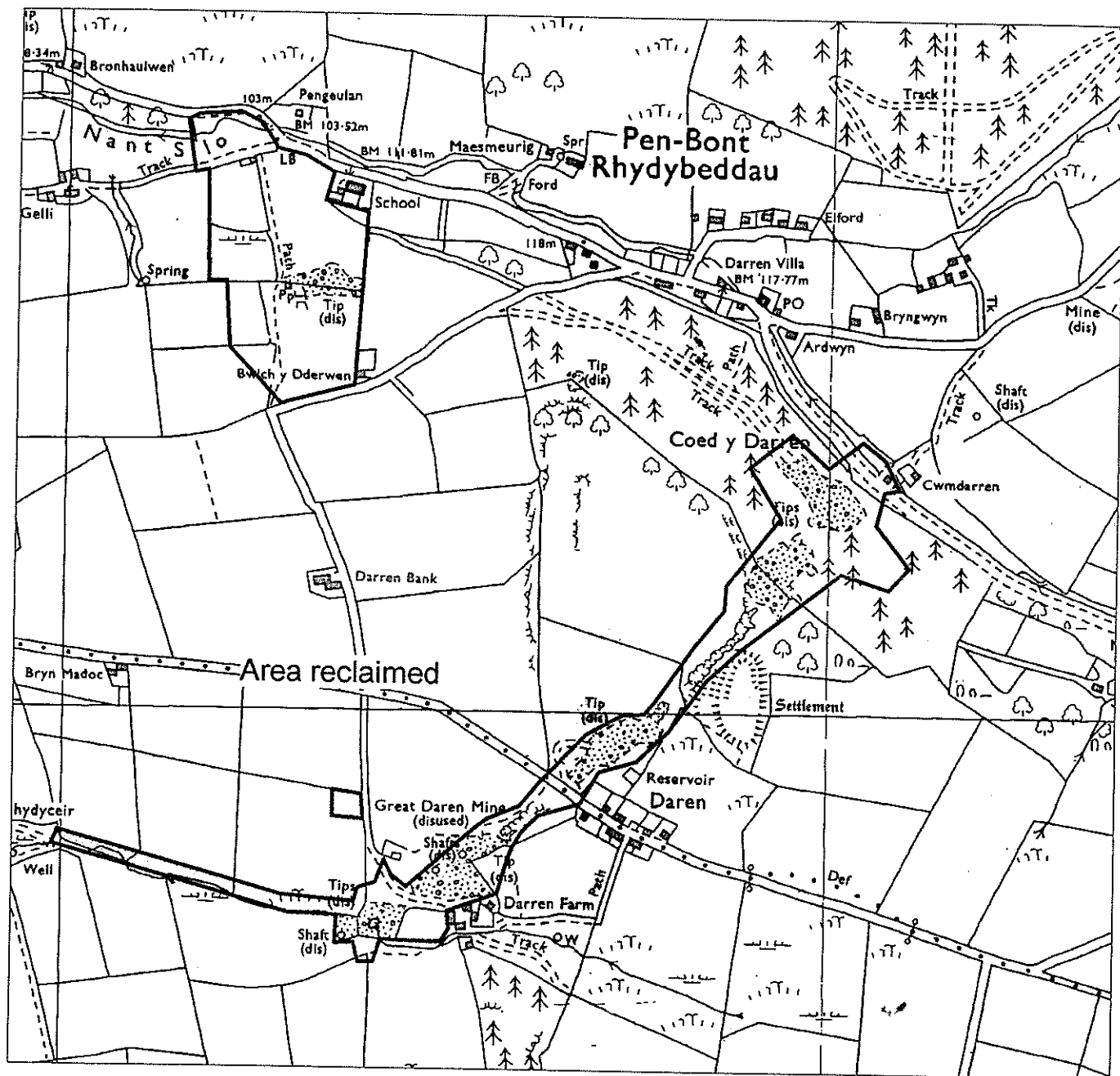
### **Mine Boundary**

The mine boundary shown on the accompanying map is based on the evidence for mining activity shown on the 1<sup>st</sup> and 2<sup>nd</sup> edition 1:10560 OS maps, but in the field it was noted that there has been some loss of features and the areas of archaeological interest are now reduced to two main areas, as shown.

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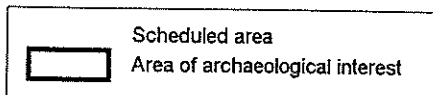
Map 6: Daren Mine PRN 8337 / SAM CD 144

Scale 1:8000



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## **5.7 GOGINAN PRN 8338 SN690817**

### **General Description**

The Goginan Mine was one of the largest metal mines in the district, however the site has suffered a substantial loss of surface features as the result of a land reclamation scheme during the 1980s. Almost all of the 19th century ore preparation area of the mine has been razed, along with the associated spoil tips, making the southwestern portion of the mine site unrecognisable as a former industrial landscape.

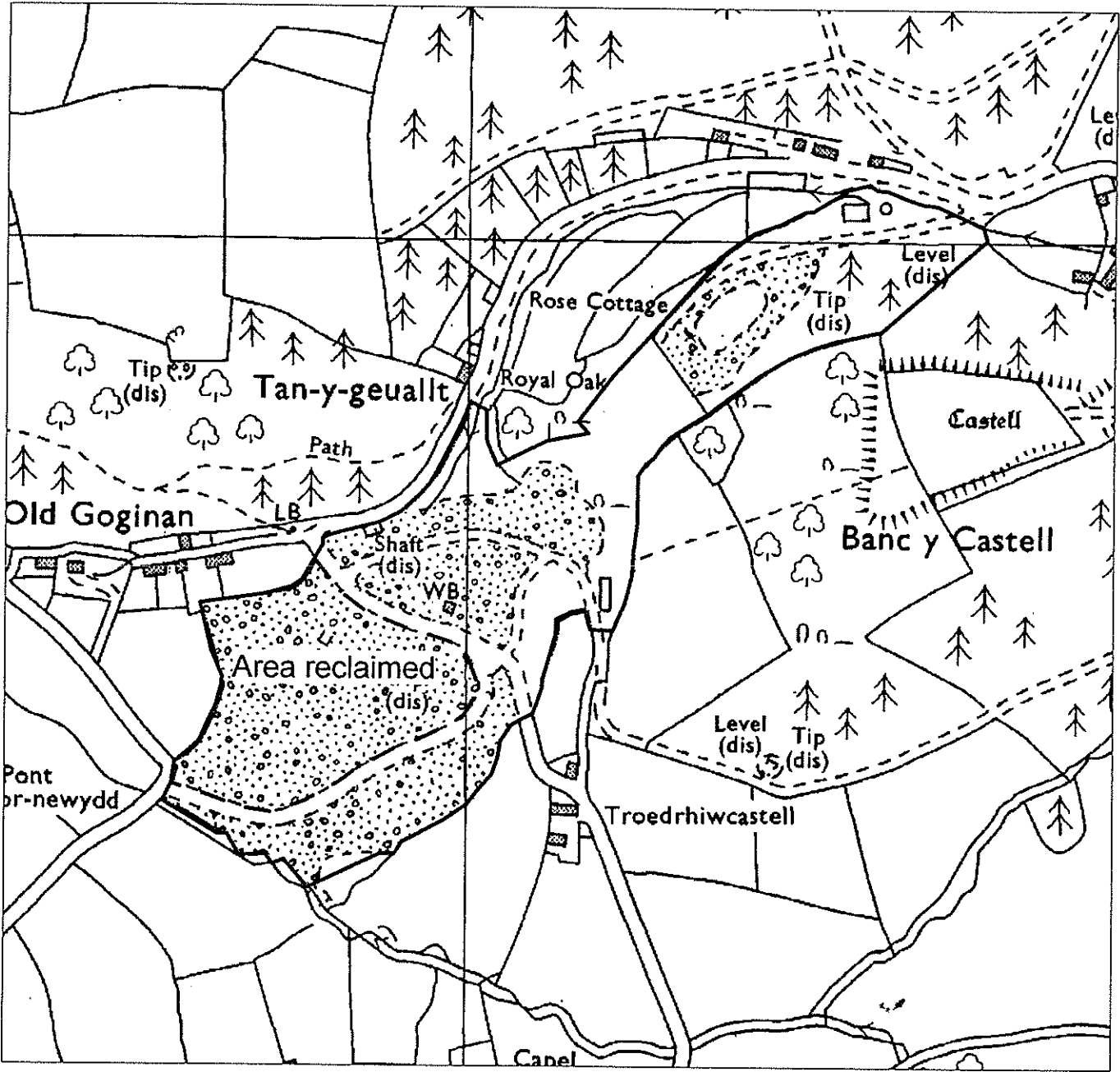
Significant historic and archaeological interest does survive at Goginan however, particularly to the northeast where several shafts, levels and associated spoil tips remain, although now partly afforested. These include the intact and open portal of Taylor's Inclined Shaft. The sites of a few buildings are recognisable to the eastern side of the mine area, including the foundations of a small row of miners' cottages known as Cornish Row.

Despite the loss of mining features, the Goginan site is perceptibly part of a wider mining landscape, with the cottages, chapels and other buildings of the mining village still possessing a distinctive industrial atmosphere. In terms of non-mining archaeology, it should be noted that the Castell hillfort is situated immediately east of the mine area.

### **Mine Boundary**

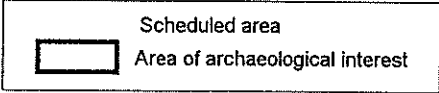
The boundary of the mine defined for the purposes of this report are based on the evidence of late 19th century OS maps and field observation.

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 Map 7: Goginan Mine PRN 8838  
 Scale 1:5000



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## 5.8 FRONGOCH PRN 9151 - SAM Cd 146 SN723745

### General Description

Frongoch mine flourished during the latter half of the 19<sup>th</sup> century and into the early 20<sup>th</sup> century. It has been regarded as one of the best preserved mine complexes in the Ceredigion ore-field for many decades. Its recent history has seen a marked degradation in the surface remains. This has been caused by a combination of factors, including the former use of the site as an off-road driving course and the removal of spoil as hardcore. However, the processes of natural erosion and decay have impacted on many of the standing structures at the mine, including those that have been “protected” by SAM status for many years. This has resulted in the loss of the old chimney stack of the pumping engine house that was once a prominent local landmark. The present use of the northern section of the mine as a large, working saw mill complicates the management of the site as the buildings of the sawmill operation are intermixed with some of the old mine structures and large woodchip waste tips are obscuring some parts of the mine (although these are unlikely to be causing damage to sub-surface features).

Even so, Frongoch is still very much an unmistakable industrial complex and a significant landscape feature. (Reference should also be made to the adjacent Wemyss Mine (5.19 below) which was an integral part of the Frongoch complex in the late 19<sup>th</sup> century and where some of the best preserved features now survive.)

The ruined structures of a number of buildings are still present at Frongoch, including the remains of two engine houses, a crusher house, a pumping house and an office building, which fall within an area that already has SAM status. Other fragmentary structures are to be seen across much of the northern part of the mine area, which undoubtedly still offers considerable potential for the survival of sub-surface archaeological remains, despite the loss of much surface evidence. There are also features outside the main mine area, such as two ruined magazines on banc Lletty Synod to the south and footings the former miners’ barracks adjacent to Frongoch cottage to the north.

The southern half of the complex was occupied in the main by extensive spoil tips and a large reservoir that supplied water to the ore-processing works at the Wemyss mine, to which it was connected by a leat that survives in good condition for much of its course. The area of spoil tips has been greatly disturbed during the 20<sup>th</sup> century and the reservoir has long been drained and its site is now barely identifiable.

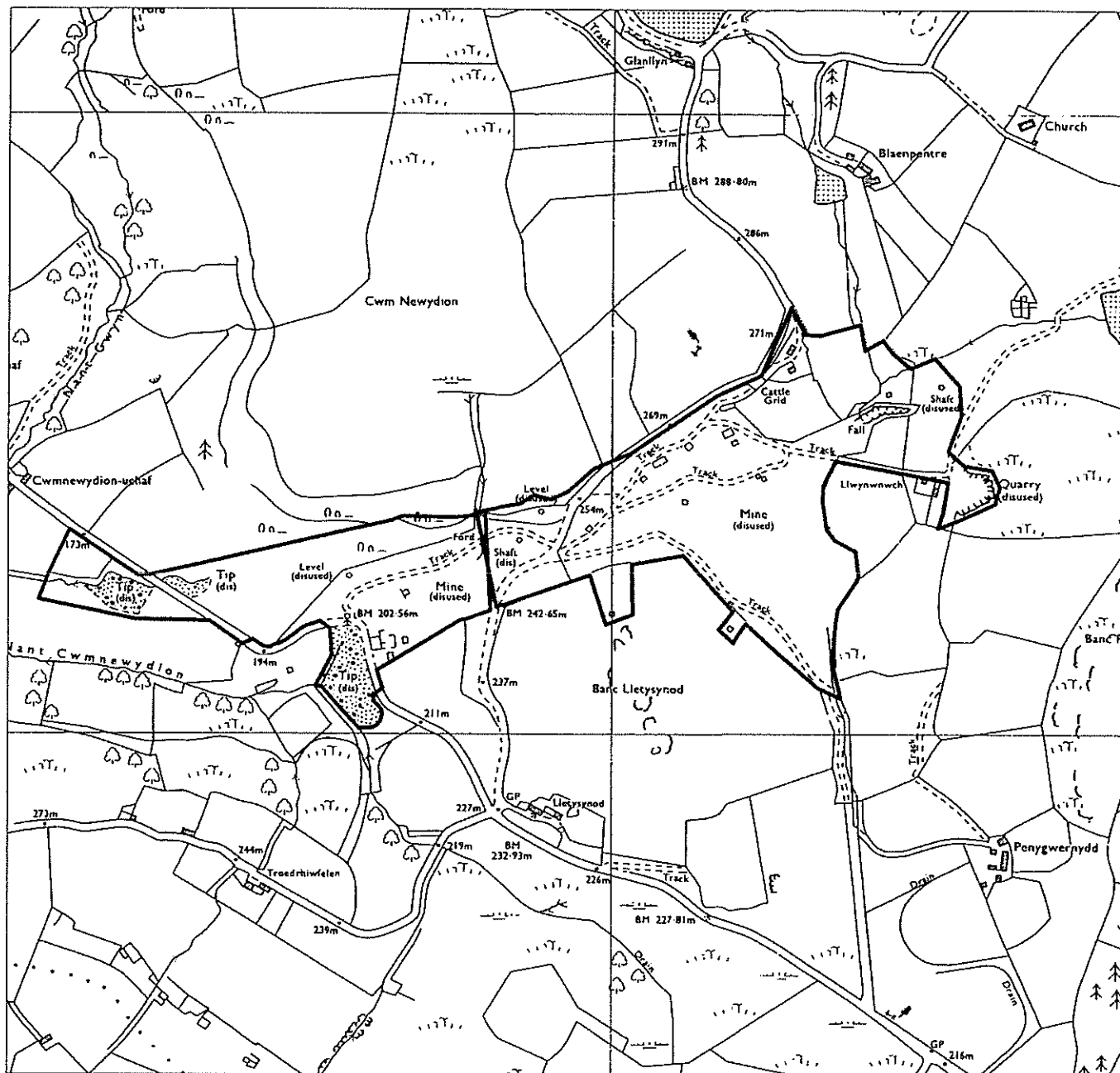
### Mine Boundary

The boundary shown in the accompanying map is derived from field observation, the area of mining activity shown by late 19<sup>th</sup> century OS maps and the notes of Robert Protheroe-Jones, made in 1993.

# Metal Mines Project 2002-03

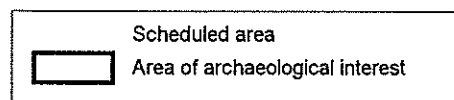
## Map 8: Frongoch Mine PRN 9151 / SAM CD 146

Scale 1:10000



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## **5.9 LEFEL FAWR PRN 9153    SN739722**

### **General Description**

Lefel Fawr was a significant mining site by virtue of being the entrance for underground workings to the east of Pontrhydygroes. Therefore the ore processing area for a number of neighbouring mines were located here during the late 19th century. Lefel Fawr itself is said to be the longest drainage tunnel in Central Wales.

When visited by Robert Protheroe-Jones in 1993, it was reported that little survived of the mining and processing features shown on early 20th century OS maps. The most obvious evidence is restricted to the level entrance itself, which remains open, and an area of disturbed spoil to the west.

The archaeological potential of the area further to the west, towards the Ystwyth is unknown but may include buried features associated with ore processing. The 2002 visit did however establish that there is a significant area of surviving and apparently undisturbed spoil material along the banks of the Afon Ystwyth, to the western edge of the mine area (shown on the accompanying map). Access was not gained to this part of the site, although it is visible from above. It would appear that at least one standing structure is present at the river's edge, but its nature was not discerned.

The mine Counting House and smithy building also survive near the level entrance, though now converted into a dwelling and garage. Another important building that still stands at the edge of the old mine site is the mid-19<sup>th</sup> century Mining College established by John Taylor.

Lefel Fawr sits in the unmistakably industrial village of Pontrhydygroes and despite the reduction of surface evidence forms a significant part of that character. The Miner's Arms public house is prominent in the village and other relevant buildings, including a now listed Mining School building and miners' cottages are prominent. The arched entrance to the Lefel Fawr (PRN 44488) is a Grade II listed structure. It should be noted also that the nearby Counting House and the old Mining College are also Grade II listed buildings.

It is considered that the combination of surviving and visible features makes Lefel Fawr and Pontrhydygroes suitable locations for the presentation and interpretation of mining heritage.

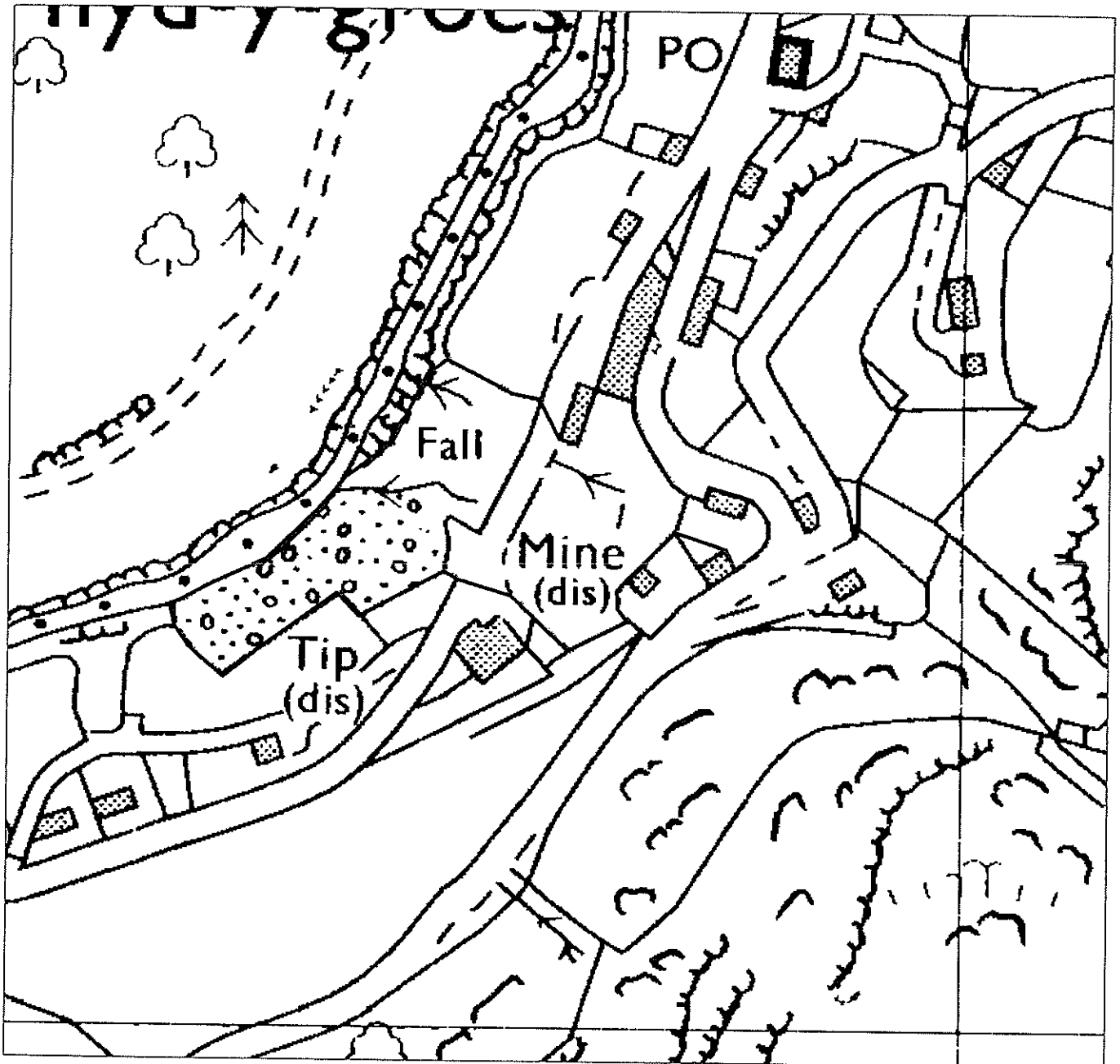
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

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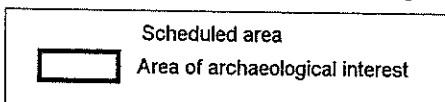
Map 9: Level Fawr Mine PRN 9153

Scale 1:2500



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## **5.10 HENFWLCH PRN 9164     SN737883**

### **General Description**

The Henfwlch Mine is a 19th century complex of which the main surviving elements include some open shafts, levels, building fragments and extensive spoil tips. The dressing floor area appears undisturbed and may have buried archaeological features of some significance relating to ore processing. The visual coherence of the site is disrupted to a large degree by the present forest plantation that occupies much of the mine area.

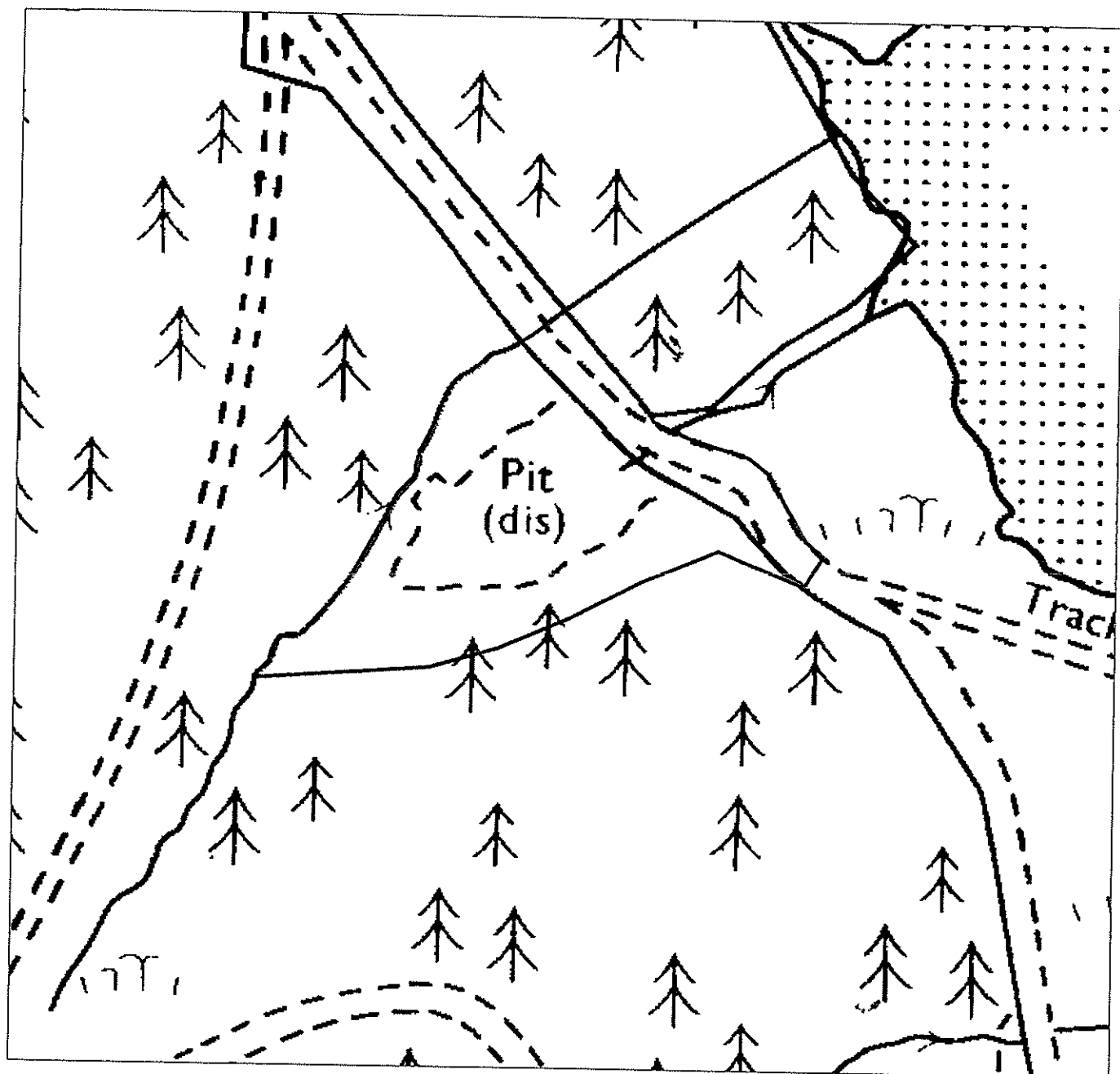
Henfwlch lays close to the Hafan mine, which is located to the west, and the local landscape contains numerous mining features, including some further mining activity a few hundred metres to the northeast and a series of leats, which carried water to the mine.

There is one non-mining feature of interest nearby, the site of the Camdwr Biti farmstead to the east, which has been demolished and partly disturbed (probably by activities relating to the creation of Nantymoch reservoir) but may retain some archaeological potential.

### **Mine Boundary**

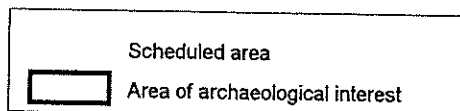
The mine boundary defined on the accompanying map is based on the area of activity shown on the 2nd edition 1:10560 OS map.

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Map 10: Henfwlch Mine PRN 9164  
Scale 1:2500



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## **5.11 HAFAN PRN 9166      SN730880**

### **General Description**

The Hafan Mine is an early mining site that is known to have been worked during the 18th century and surface features from this period survive, including adit portals and a pumping water wheel pit. The workings occupy a narrow, rocky, steeply inclined gully that is dominated by an impressive inclined tramway bed relating to a later quarrying operation to the west. At the bottom of the gully stands a fine wheelpit in good condition.

The wider landscape has been greatly affected by mining and quarrying, with a large 20th century quarry associated with the building of the Nantymoch reservoir dam immediately to the east of the mine. Also to the east is an earlier quarry, which was served by a light railway that terminated at the western edge of the Hafan mine. Further east again is the site of the Henfwlch mine.

A number of impressive leats can be seen in the steep gully sides north of the mine site and across the wider area, with some sections being rock cut or stone revetted.

In terms of non-mining archaeology, a disused sheepfold marked on the 2nd edition 1:10560 OS map at the western end of the mine area appears to be part of a Deserted Rural Settlement complex of unknown date which appears to include a possible house site, several enclosures or field parcels and a sheepwash, as well as the fold. This site was identified at the time of the project field visit to the mine and is considered to be an important archaeological site in its own right.

This remote mine site has a high landscape value and a degree of interest that makes it suitable for presentation and interpretation.

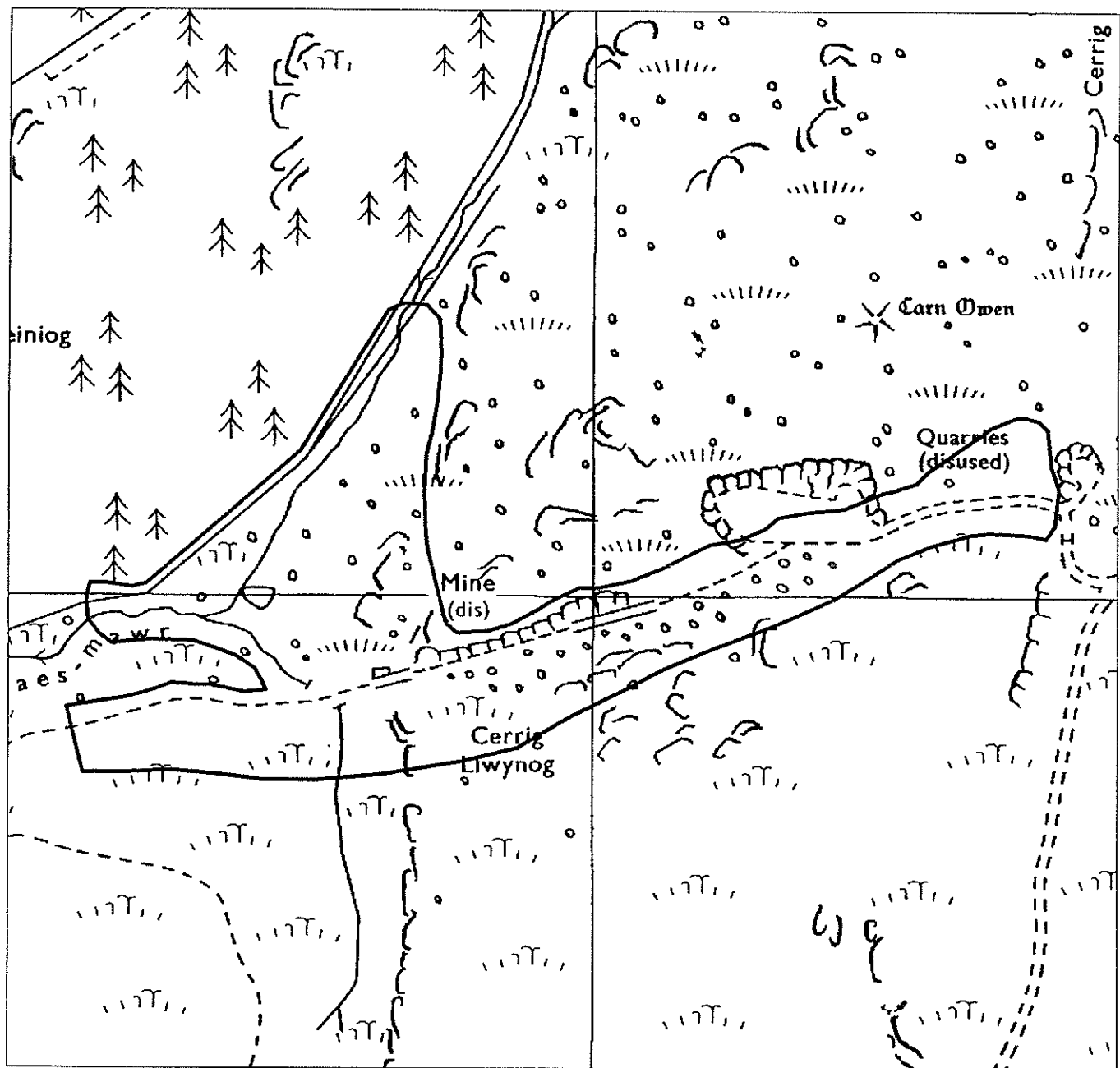
### **Mine Boundary**

The mine boundary defined for the purposes of this report is based on the evidence of early 20th century OS maps.

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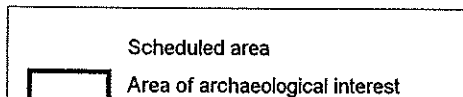
Map 11: Hafan Mine PRN 9166

Scale 1:5000



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## **5.12 BOG PRN 9169 SN739814**

### **General Description**

The Bog Mine is part of a larger mine sett incorporating the Graignant and Llywernog mines. It operated from 1830 - 1883. The mine site is now largely within a forest parcel, with some key features on open pasture to the south.

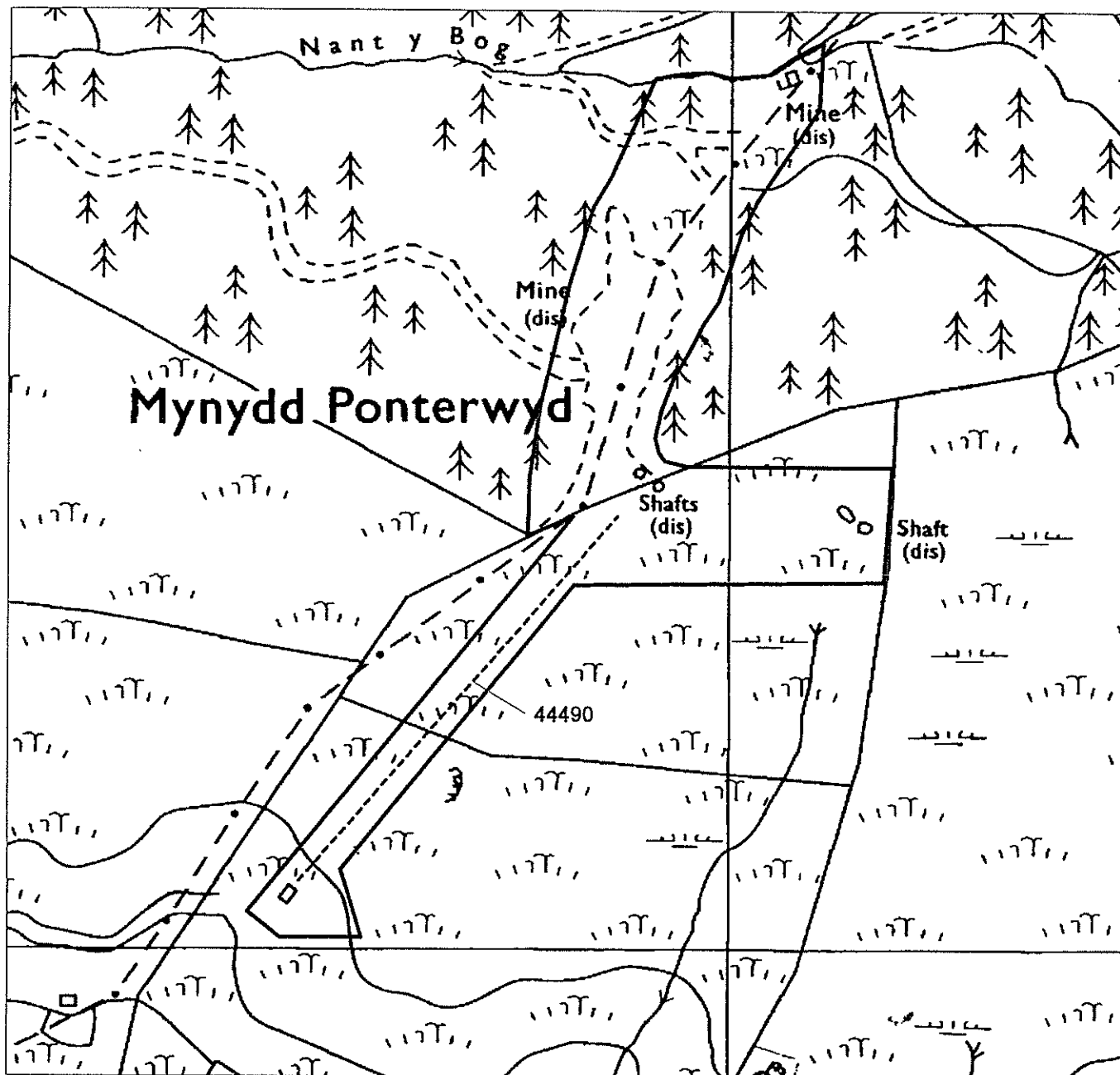
Standing structures comprise two winding houses and a crushing mill and wheelpit as well as a possible smithy (all ruinous). Levels, shafts and spoil tips remain largely undisturbed and the mine dressing floor area and associated spoil tips may well conceal significant archaeological remains. One significant feature surviving at Bog are the earthworks marking the line of flat rods between the Winding Engine House and the waterwheel that provided its power.

The mine is set in a wider mining landscape with a number of significant leat courses passing north and south of Bog itself.

### **Mine Boundary**

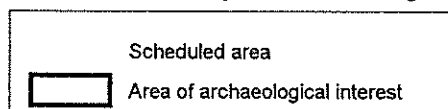
The mine boundary as defined for the purposes of this report are based on the area of activity shown on the 1st edition 1:10560 OS map.

Metal Mines Project 2002-03  
Map 12: Bog Mine PRN 9169  
Scale 1:5000



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### **5.13 CASTELL PRN 9171 - SAM Cd 153    SN775813**

#### **General Description**

Castell mine dates to the late 18th and the 19th century. Surviving features are located in two discrete blocks of land, linked by two parallel leats that brought water to both from further up the Castell valley.

The westernmost of these blocks includes the main part of the mine complex where crushing and ore-processing was carried out. Much of the surface evidence at this location has been destroyed in recent years, mainly by the removal of stone from demolished mine buildings and waste material from the spoil tips for hardcore. The only standing structure left in this portion of the mine is a crusher house built in 1898, which has a large wheelpit built onto its southwestern side. These are both decaying, although they have not reached the point at which they cannot be strengthened and saved. All other standing structures have been removed, but their foundations may survive as archaeological features buried beneath the rubble and degraded spoil tips that occupy much of the site. It is likely that evidence for other structures also lies buried beneath this material, giving the site a higher archaeological importance that might be suggesting by surface evidence alone. In recognition of its sub-surface archaeological potential, the heart of this area has SAM status.

The eastern block is smaller and includes an impressive wheelpit in very good condition. A capped shaft lies nearby as does a former mine office building, now derelict and bearing the signs of having been used as both a dwelling and agricultural building during the 20<sup>th</sup> century.

The mine was served by an extensive network of leats that were fed by streams further up the Castell valley and another leat that brought water from a reservoir (now dry) uphill to the west. These leats survive in part in the landscape. There were also once mine office buildings and a miners' barracks at the Dyffryn Castell hamlet on the opposite side of the Castell valley, the barracks is now incorporated into a private dwelling. It is important that this relationship between the mine and the wider landscape is not forgotten.

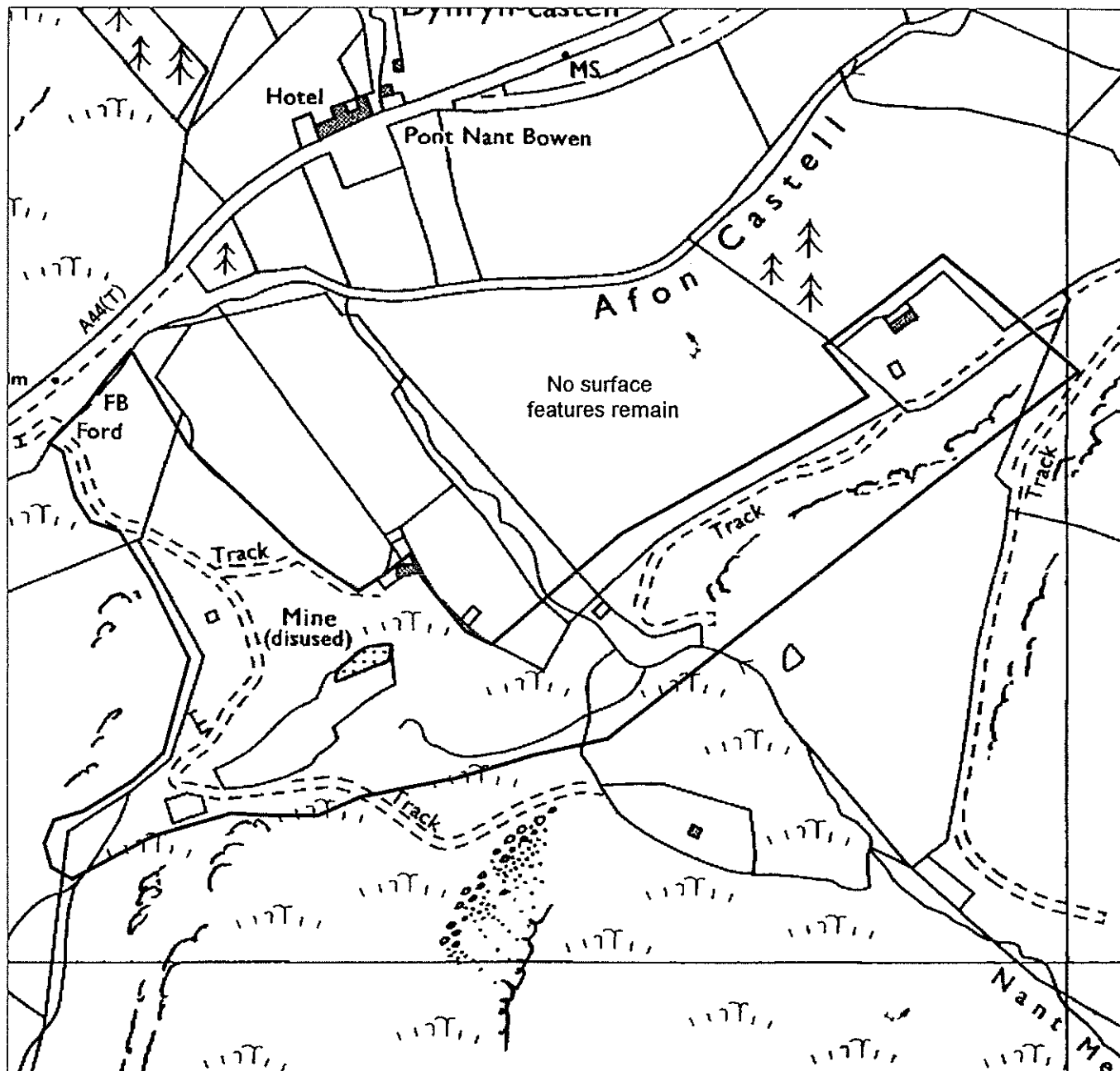
#### **Mine Boundary**

The mine boundary defined on the accompanying map is based on the area of activity shown on the 2nd edition 1:10560 OS map.

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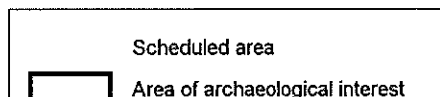
Map 13: Castell Mine PRN 9171 / SAM CD 153

Scale 1:5000



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## **5.14 ESGAIRLLE PRN 9173     SN791827**

### **General Description**

Esgairlle mine was largely a 19th century working which has had most of its surface features removed during the late 20th century. There are now no standing structures at the mine site. Several shafts, open and blocked, a number of run-in levels and areas of disturbed spoil tips survive to mark the location of the mine. However, Esgairlle mine remains a significant landscape feature, located as it is at the head of the Castell valley.

It is thought that significant archaeological potential may remain in parts of the site, particularly beneath the fine spoils of the ore processing area, which may conceal features associated with ore preparation.

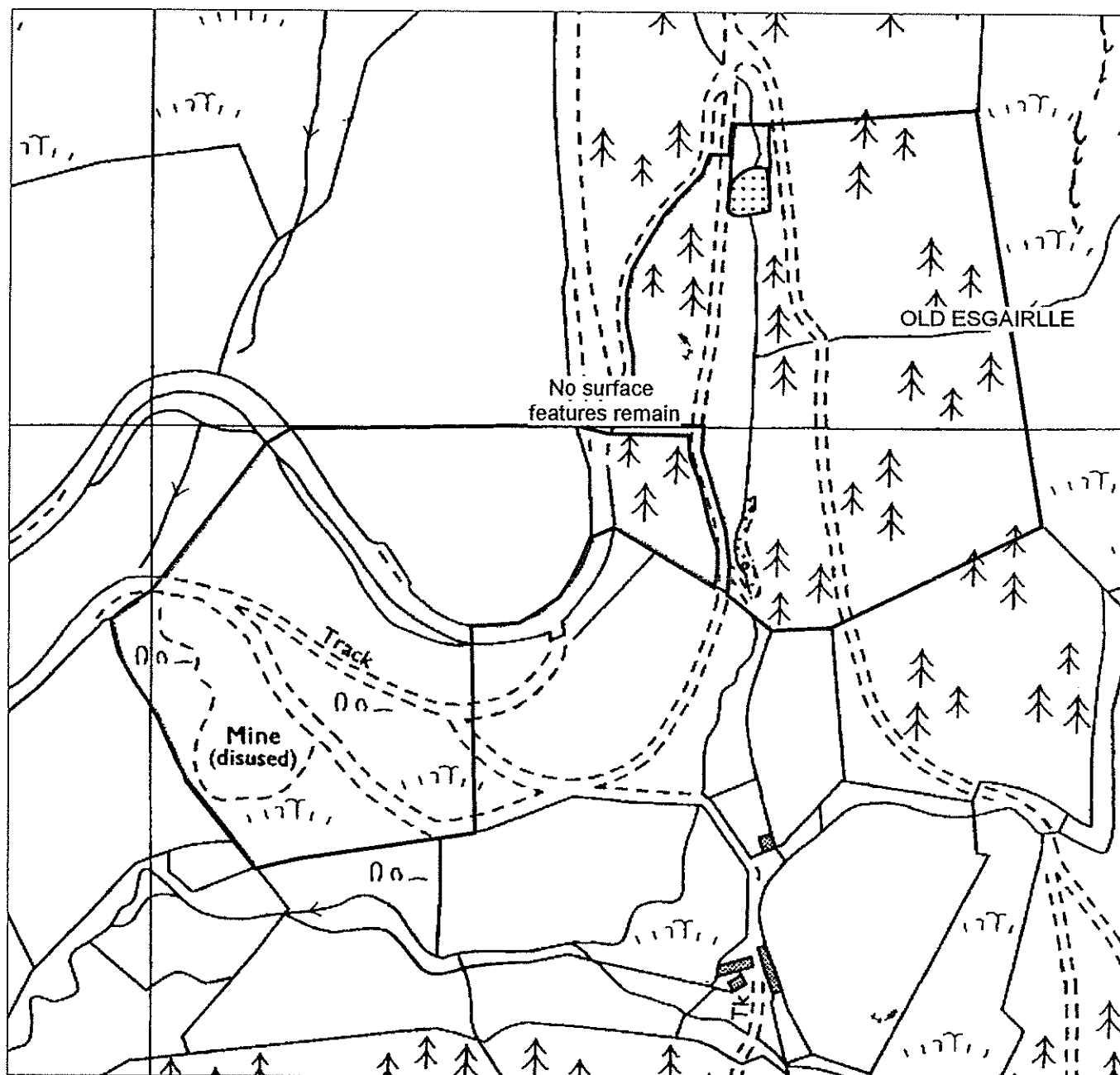
Stone tools found in the vicinity of Esgairlle may indicate that the history of mining in this locality has ancient roots and this fact alone increases the potential archaeological importance of Esgairlle and the neighbouring workings at Old Esgairlle, despite the loss of recent structures.

With Old Esgairlle close by to the northeast, Esgairlle stands in a landscape perceptibly influenced by mining activity. The lines of a number of leats that once brought water to the mine run from both the west and north-east and can still be seen quite clearly crossing adjacent land parcels.

### **Mine Boundary**

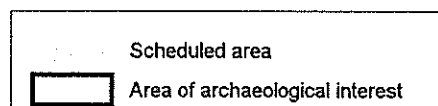
The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

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 Map 14: Esgairlle Mine PRN 9173  
 Scale 1:5000



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## **5.15 ABBEY CONSOLS PRN 9310    SN744663**

### **General Description**

Abbey Consols Mine is a largely 19th century complex which has lost most of its buildings and standing structures and seen some disturbance of the spoil tips around the ore processing area of the mine.

However this relatively extensive complex retains enough features of interest to make it a site of some importance. These include former supply ponds, leats, mineshafts and associated spoil tips on the higher ground to the north-east and the ore processing area, associated spoil tips and the mine office at the lower, south-western part of the complex.

Mining has also impacted on the wider landscape. To the north, higher up on Penybannau hill, there are numerous trial trenches associated with mining activity.

Although there is no non-mining archaeology within the mine boundary, the nearby ruined farmstead of Bronyberllan is an impressive feature in the local landscape. Abbey Consols mine is also situated between the major historical monuments of Strata Florida Abbey and Penybannau Hillfort.

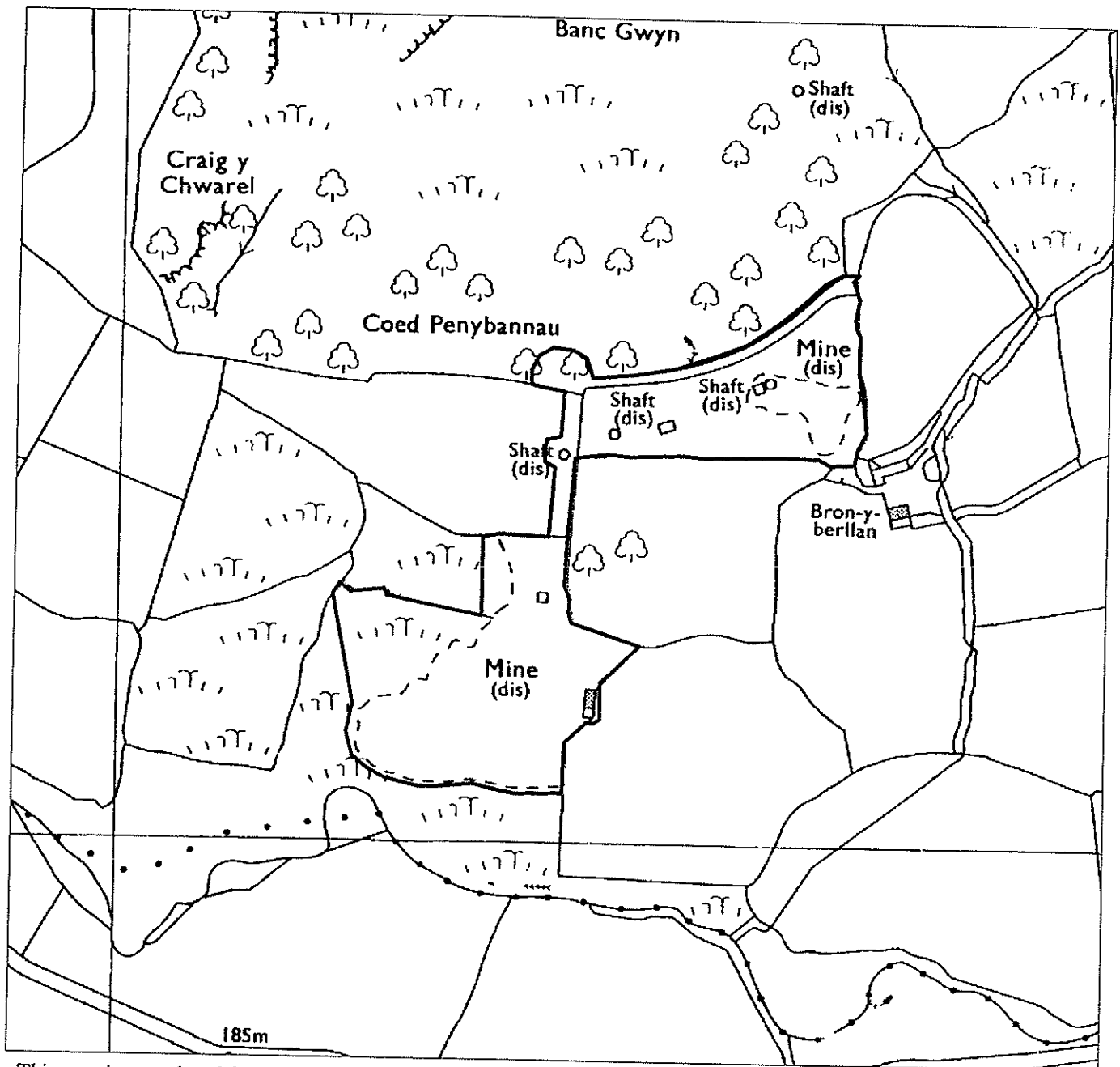
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys and recent field observation.

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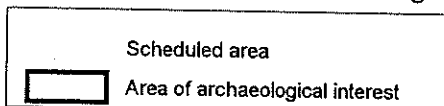
Map 15: Abbey Consols Mine PRN 9310

Scale 1:5000



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## **5.16 TEMPLE PRN 9342 SN749793**

### **General Description**

The Temple Mine is a 19th century complex that still retains many of its surface structures in a reasonable condition. These include a number of buildings, wheelpits, the crusher house, ore slides and buddles, many of the features associated with ore processing. The levels and shafts of the mine mostly remain open.

Tramway beds and leats provide links with the wider landscape, but evidence of the steep incline, which exited the mine to the west, has yet to be identified in the field. The mine was worked in conjunction with other workings around Ystumtuen, to the west, during the 19th century and it would appear that only in that direction was it possible to move ore produced at Temple due to the general difficulty of the terrain.

The value of this mine is greatly heightened by its dramatic location on the western side of the deeply incised Rheidol gorge, between Ystumtuen and Ysbyty Cynfyn. This, along with the range of surviving features at the mine make it suitable for low level interpretation, although difficulty of access will inevitably restrict visitor numbers.

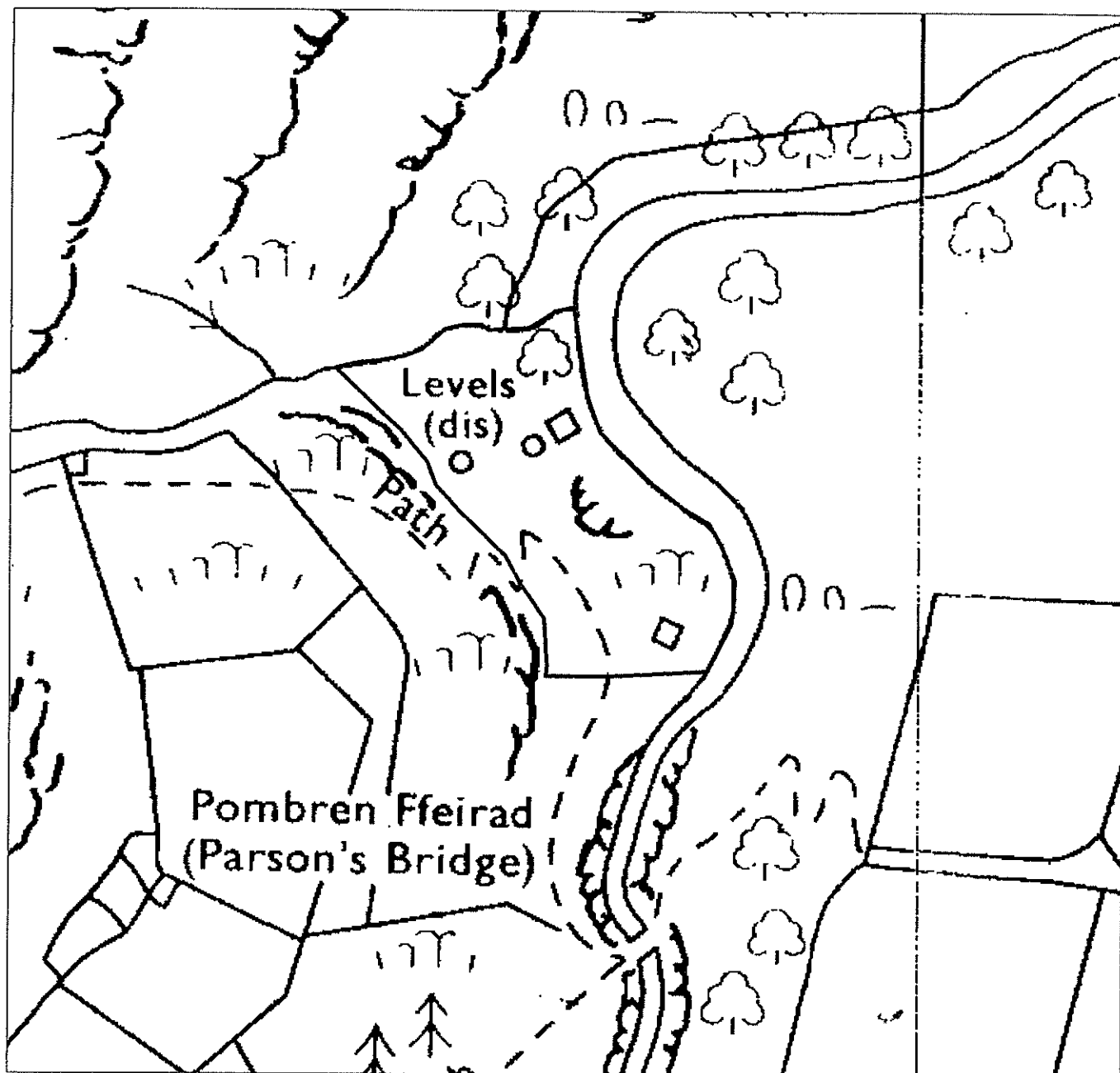
### **Mine boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

Metal Mines Project 2002-03

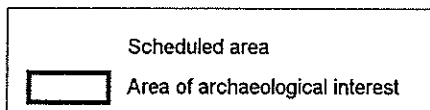
Map 16: Temple Mine PRN 9342

Scale 1:2500



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## 5.17 LLANFYRNACH PRN 9703

### General Description

The Llanfyrnach mine is in North Pembrokeshire and was by far the largest and most productive of that county's metal mines. Lead and silver were mined here in the 18<sup>th</sup> century, but most of the visible evidence that survives on the site is of 19<sup>th</sup> century date.

Access was not gained to the site in 2002 as permission could not be gained (the current owner was not contactable.) However, enough of the site is visible from publicly accessible roads and trackways to make some comment about the character and condition of the site. One striking aspect of the mine is that it sits relatively undisturbed in a sheltered valley bottom, close to the small village of Llanfyrnach. The settlement includes some buildings that were associated with the mine, such as the still occupied terraced miners' cottages known as Brick Row, at the eastern side of the complex. The course of the disused Whitland & Cardigan Railway also passes along the eastern edge of the mine.

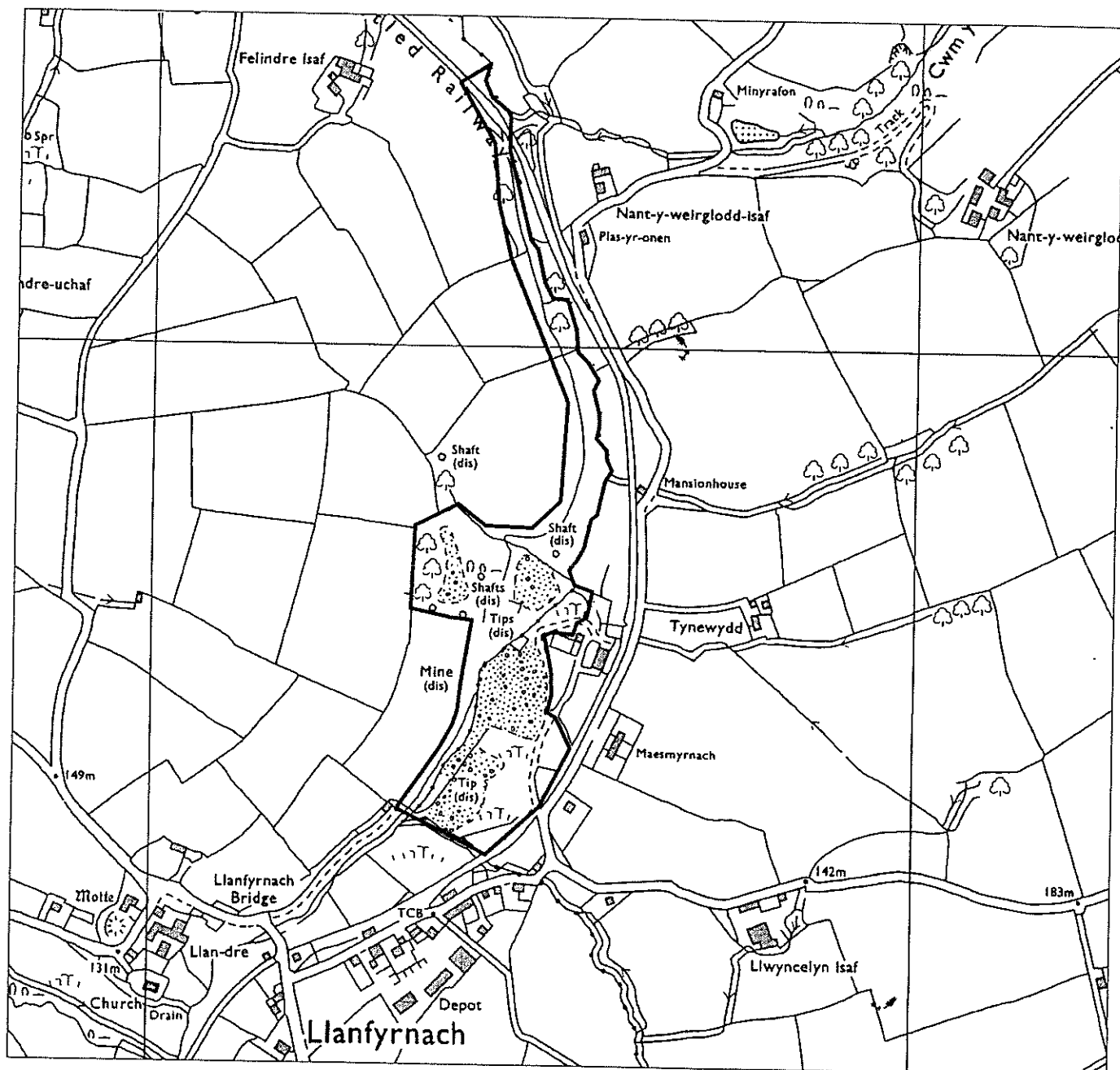
It is known that a wide range of 19th century mining and ore-dressing features are present at the mine and some evidence of 18th century workings. The Welsh Mines Society (Environment Agency, 2002b, 99) has recently noted that remains include 3 shafts, a well preserved Cornish engine house, a boiler house and dressing floors. The squat chimney stack of the Cornish engine house can be seen from the village road, and appears to be in good condition. The spoil tips and tailings at the mine are also mostly undisturbed, although it appeared that there may have been some disturbance of spoil tips at the eastern edge of the mine, just southwest of Brick Row. The mine is linked to the wider landscape by leats that once carried water to the site, the most significant of which apparently runs northwards across farmland to tap into the Afon Tâf. The Tâf also flows through the mine site itself, dividing it in half.

The site is presently largely overgrown and inaccessible. Although this is in many respects of benefit to the site as there is little or no interference with the surviving structures and sub-surface archaeology, there is a perceptible but undefined threat to the remains from vegetation and tree growth. Root damage may well be a general problem as well as the growth of trees within or alongside standing structures.

### Mine Boundary

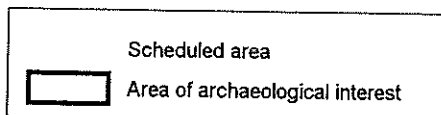
The boundary defined on the accompanying map is derived from the main area of mining activity shown by late 19<sup>th</sup> century OS surveys.

Metal Mines Project 2002-03  
 Map 17: Llanfyrnach Mine PRN 9703  
 Scale 1:8000



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## **5.18 POWELL'S LLYWERNOG PRN 19839      SN729808**

### **General Description**

Access was not possible at this site in 2002 and only a general impression can be gained on the basis of previous information. It would appear that Powell's mine has amongst the best preserved building assemblages of the mines in the district.

It is apparent that significant elements of the mine complex survive to the south of the Aberystwyth - Llangurig road that bisects the site. A number of standing mine buildings are in use as dwellings or storage sheds. It is evident also that areas of spoil tips are still present, those north of the road now disturbed and partly overplanted with conifers, those south of the road falling within an area of private use and of unknown condition. The dressing floor of the mine was located on the northern side of the road and some archaeological potential may remain in that area if features associated with ore preparation are buried beneath the spoil tips in this area. It was reported in 1993 to Robert Protheroe-Jones that a 45' wheelpit survived in good condition immediately south of the road.

The mine is situated in a landscape greatly influenced by past mining activity and within view of Poole's Llywernog, where the Llywernog Silver-Lead Mining Museum is located. Powell's mine is considered to be an important element in that wider mining landscape and the future retention of surviving features here is considered important.

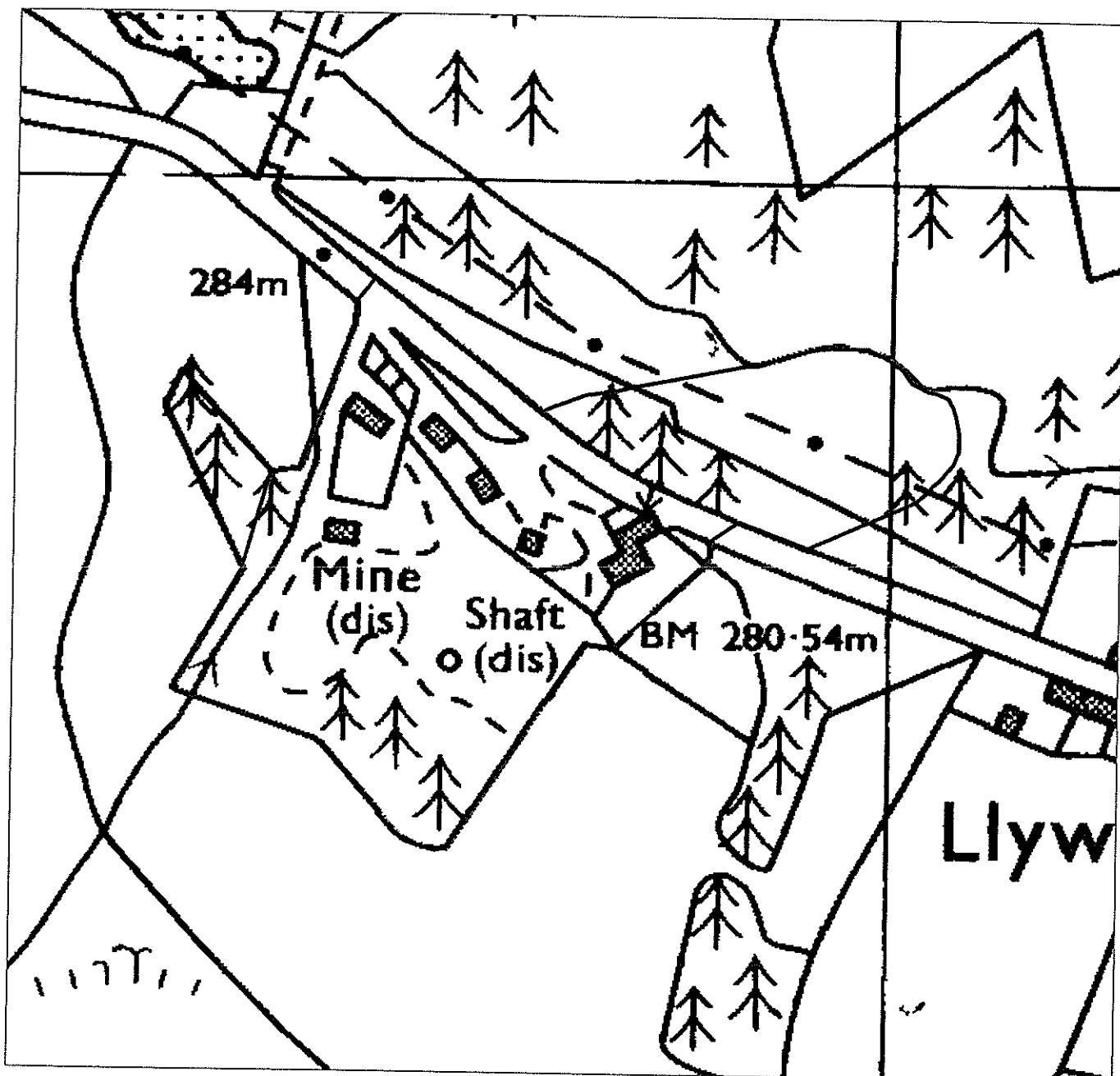
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys and the 1993 notes of Robert Protheroe-Jones.

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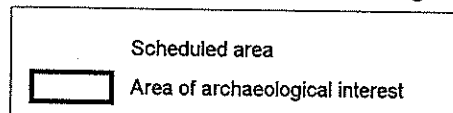
Map 18: Powell's Llywernog Mine PRN 19839

Scale 1:2500



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**General Description**

The Wemyss Mine is one of the workings on the Frongoch lode and is in many respects an integral part of the larger Frongoch mine complex (Frongoch itself is immediately adjacent to Wemyss to the east). By the late 19th century, the Frongoch ore preparation plant was located at the Wemyss site, the two sites linked by an inclined tramway.

Wemyss is amongst the most visually striking mine complexes in the Ceredigion ore-field, with the monumental ruins of the 1898 ore preparation plant and the large pumping waterwheel pit dominating the landscape at the head of the Cwmnewydion valley. The wheelpit has been infilled, but may not have been greatly damaged by this action. In the distance to the west, the shell of the mine's late 19th-century electricity power generation plant also stands as an impressive feature (see Graig Goch Mine description also; 5.21 below). These impressive structures belong to the latest phase of activity at the mine, but evidence of earlier mining activity is also present at the site, including a number of old shafts and levels and their spoil tips. There are also a number of minor prospecting trenches along the northern edge of the mine area. Some ruinous buildings also survive, the most complete being the powder magazine and a possible office building at the roadside below the ore-processing plant.

The large spoil tips of fine material below the ore-processing plant are also a major feature at this site. They are beginning to display signs of erosion by water action around their base and possibly also from water flowing through or beneath the tips. These dumps may be masking well-preserved archaeological features associated with ore-preparation or earlier mining activity.

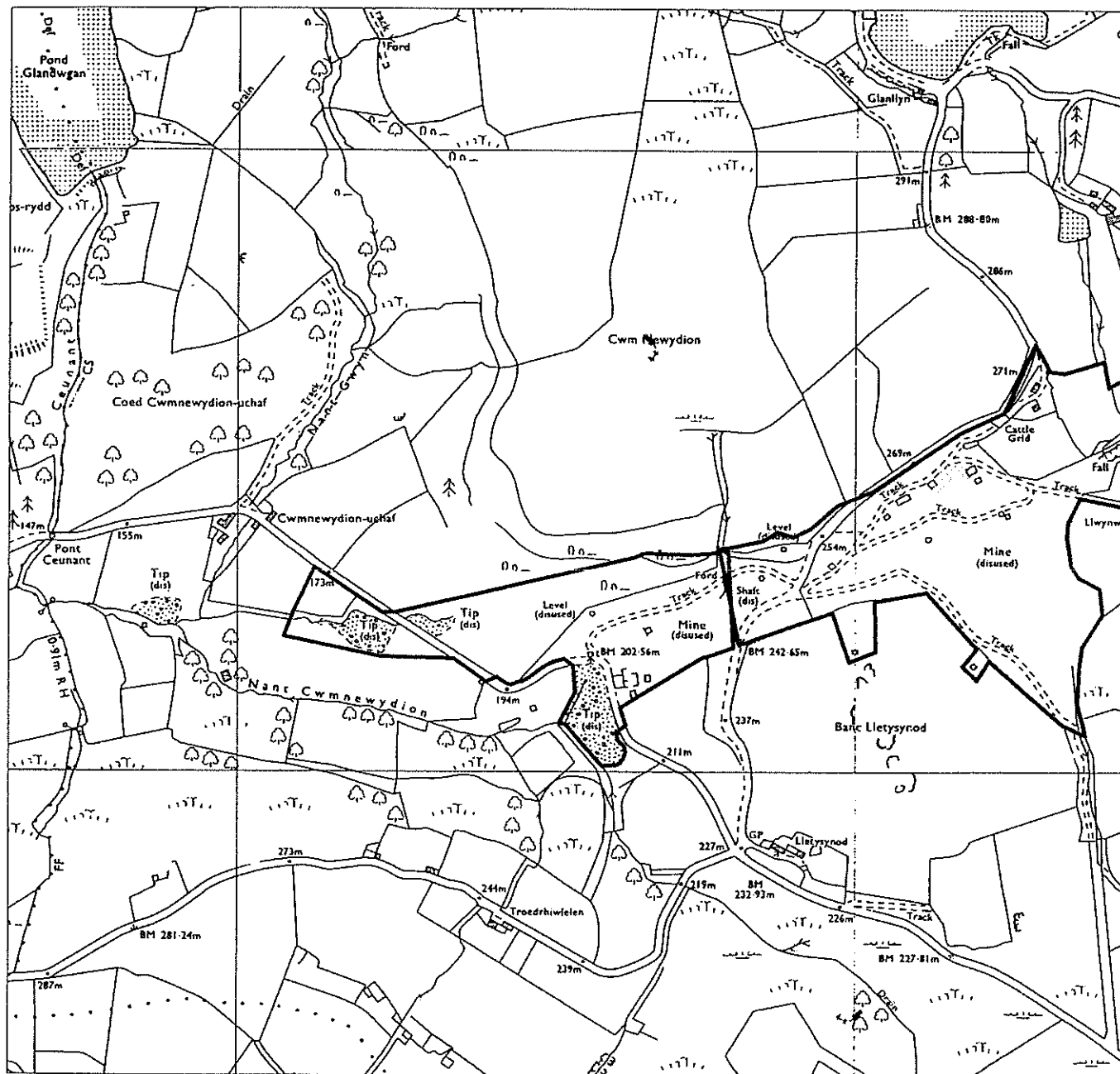
The wider landscape displays many relics of the mining heritage of the district, and this includes a number of relatively well preserved leat courses that served the local mines, including Wemyss. There are a number of non-mining features of interest close to the Wemyss complex. The ruined cottage or farmhouse of Nant-y-Rhidyll is located immediately to the west of the main spoil tips at the site. Nearby, there is also a relatively well-preserved limekiln at NGR (PRN 44494), a very rare example in the district, which may have been built to supply lime for mortar for the construction of buildings and structures at Wemyss.

One structure that warrants specific attention is the arched redbrick bridge (PRN 44493), that carries the public road that divides Wemyss and Frongoch over the course of the inclined tramway that connected the two mines. This bridge is in relatively good condition, but in need of consolidation. Ceredigion County Council, who would appear to have plans to replace the bridge, have contacted the landowner. The present bridge is an important historic structure which it is felt should be retained. It is recommended that it be considered for listing and that its preservation is treated as a matter of importance in the context of preserving the character of this important mining landscape.

**Mine Boundary**

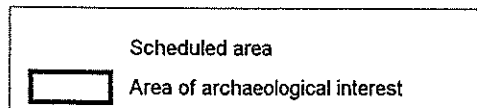
The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

Metal Mines Project 2002-03  
 Map 19: Wemyss Mine PRN 23230  
 Scale 1:10000



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## 5.20 ALLTYCRIB PRN 25833 SN648894

### General Description

Alltycrib is one of the most important early mining sites in mid-Wales. Mining is documented here from 1641 but undoubtedly dates back much earlier. There may be as many 100 separate workings within the extensive mine area, most of which lies within the Forest Enterprise owned forest of Allt y Crib, along the western side of Talybont village. The forest is full of overgrown workings, including shafts, levels, some stopes that have broken through to the surface and extensive spoil tips dating from the 17th and 18th centuries. It would appear that most of the open workings within the forest have been properly fenced off. Some features have been damaged by the construction of forestry roadways at the eastern end of the forest, but most remain undisturbed. There are almost no standing structures within the forest. A concrete crushing mill of early 20<sup>th</sup> century date is one of the few structures known.

Within Alltycrib forest it is evident that there is a possibility of that extensive sub-surface archaeology relating to 17th/18th century mining survives. During the field visit, unrecorded features were noted at several locations, including possible building foundations close to the site of the Western Engine Shaft and unrecorded blocked off levels or trial workings near the 20<sup>th</sup> century crushing mill. Another notable feature is the network of footpaths in the forest that can still be followed and which appear to connect some of the workings with each other and with the village of Talybont.

More workings are visible on agricultural land on the crest of the ridge to the northwest of Alltycrib forest and on the northern flank of the ridge. These include evidence of early fire setting and hydraulic mining and an old working that has long been known as the "Roman Level" (although there is no evidence that it was worked in Roman times). This land was not accessed in 2002, but many of the features are visible from the road to the west and from Alltycrib forest. Their condition appears to correspond with that recorded in detail by Protheroe-Jones in 1993, they are all now earthwork features with partly vegetated spoil tips. Some shafts, broken-through stopes and levels remain open in this area.

Further to the east, within the village of Talybont, which was a mining settlement, a deep adit and the 19<sup>th</sup> century mine dressing floors were located. This area has now lost almost all surface evidence of mining activity and even the spoil tips reported here by Protheroe-Jones in 1993 have now been built-over. It is possible that some old mine buildings have been incorporated into the development of this area, but house building and landscaping make assessment difficult.

No buildings survive on Allt y Crib hill except for the ruins of a powder magazine and the concrete foundations of an early 20<sup>th</sup> century mill. There is also on the Afon Leri at the southern end of the mine, a lead/silver smelting site dating from at least the 18th century.

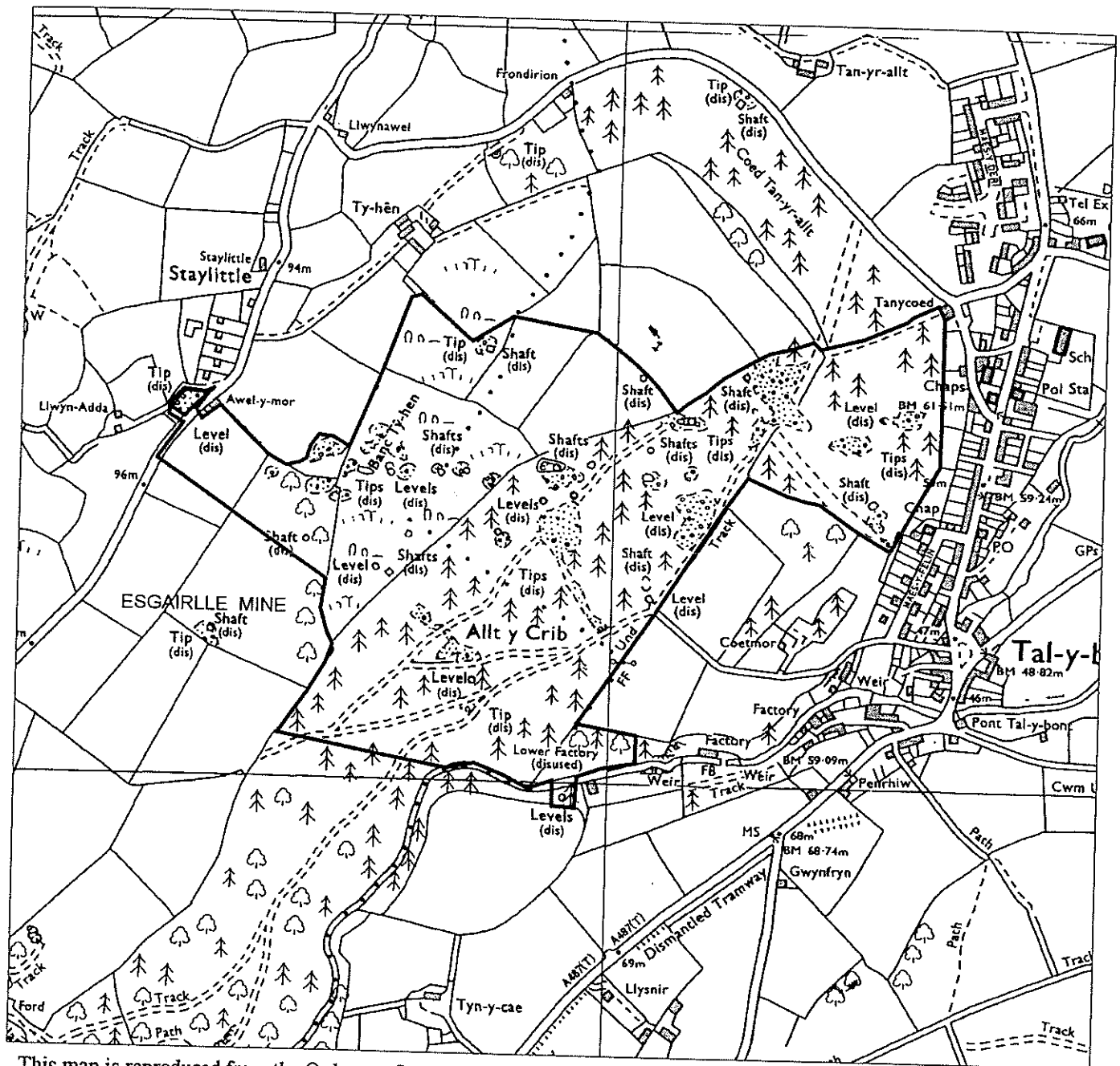
### Mine Boundary

The Alltycrib workings are spread over a large area, much of which is afforested within the FE owned Alltycrib plantation. The boundary of the area of archaeological interest has been drawn to include the whole of the Alltycrib woodland and the adjacent farmland to the west where mining activity is shown by late 19<sup>th</sup> century OS surveys. The detached portion of the mine at the eastern edge of Talybont village, where the 19<sup>th</sup> century dressing floors were located, has not been included due to the loss of nearly all mining features.

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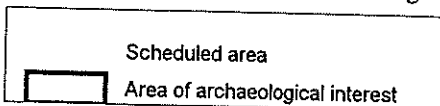
## Map 20: Alltycrib Mine PRN 25833

Scale 1:8000



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### General Description

Logaulas mine is a prominent landscape feature. There was mining activity here before the 18<sup>th</sup> century and the mine was worked during the 18<sup>th</sup> and throughout the 19<sup>th</sup> centuries. During the 19<sup>th</sup> century, it was one of a group of mines owned by the Lisburne or Crosswood estate and connected to ore-processing works at Pontrhydygroes by the Lefel Fawr, the longest mine level in Wales. The Lefel Fawr, which was begun in 1785 and connected to the workings at Logaulas in 1834. The Lefel Fawr is still accessible to experienced cavers and mine experts and it is known that underground archaeology survives in the workings.

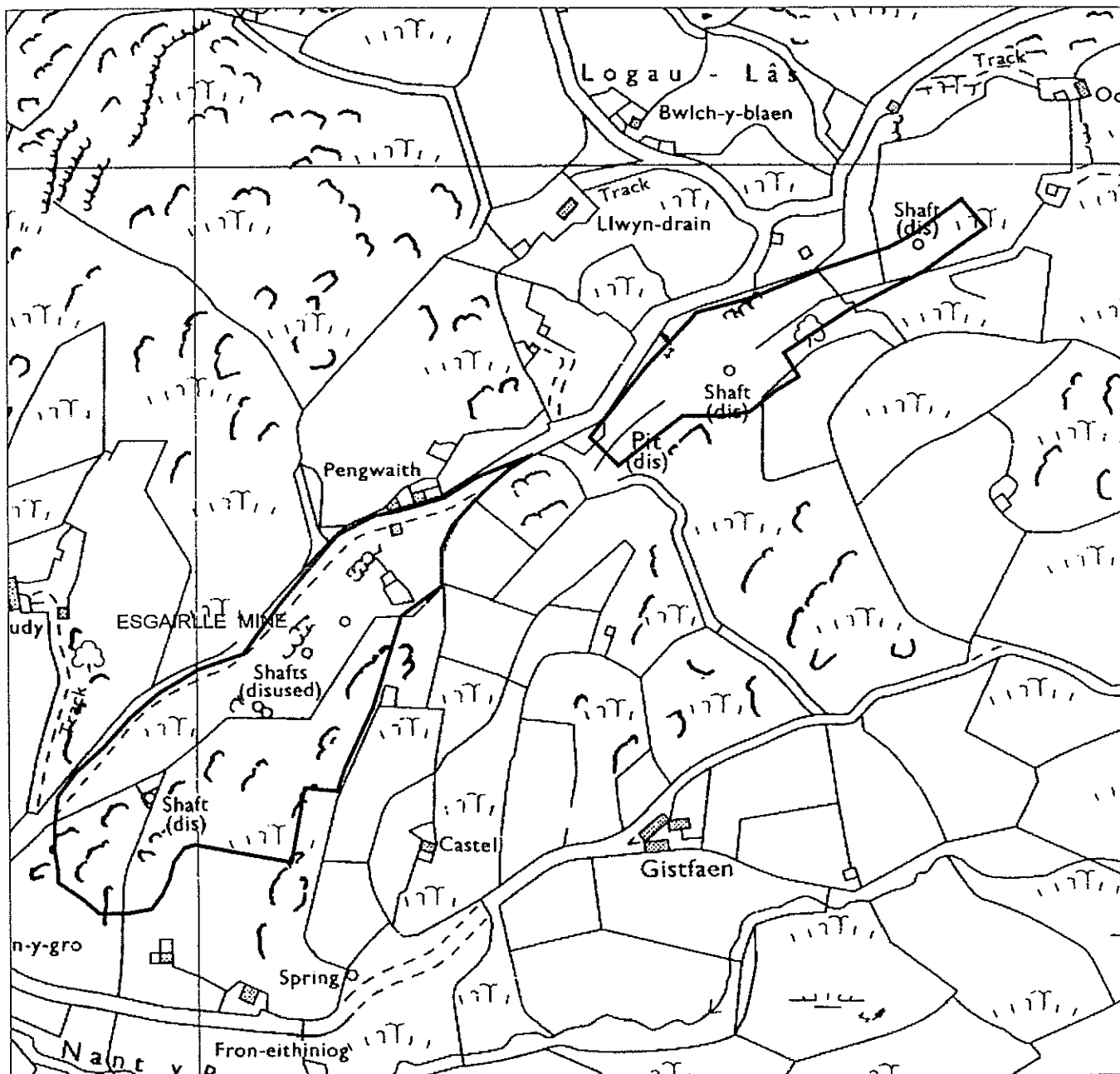
Logaulas, as defined by Protheroe-Jones in 1993, is accessible from the open road, and the western part of the mine is unfenced along its western edge. This has led to considerable fly tipping on mine features along the roadside. The mine is divided into two discrete areas of activity, that to the west being the earliest. Few standing structures survive in either of these areas of activity, as was the case when the site was visited by Protheroe-Jones. The Welsh Mines Society reports that a smithy and possible stable survive, but it is not known where these are located. They were not identified by Protheroe-Jones. Other surviving structural evidence is limited to a number of open, stone-collared mineshafts, Taylor's Shaft and Vaughan's Shaft to the west being open and dangerous, Worsley's Shaft to the east being covered with a steel grill. The most impressive feature is a large opencut working that runs southwest-northeast for over 300m across the western part of the mine.

It is worth noting that the Welsh Mines Society also reports that "*areas of ancient dressing floors, building remains, wheel-pits and leats... tailings lagoons and complex systems of water management*" also survive at Logaulas (Environment Agency, 2002b, 106). As these are not described by Protheroe-Jones and were not identified by the rapid visit made in 2002, it is evident that significant areas of archaeological importance remain unlocated.

### Mine Boundary

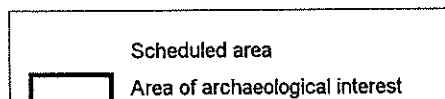
The boundary shown on the accompanying map is derived from the work of Protheroe-Jones in 1993 and is in turn based on areas of former mining activity shown on the 2<sup>nd</sup> edition 1:10560 OS map of 1905. This has led to two discrete blocks of land being defined as the mine area, but it must be acknowledged that the 1905 OS map, and Protheroe-Jones notes, show that there are small areas of mining activity scattered across the landscape outside these areas.

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 Map 21: Logaulas Mine PRN 24586  
 Scale 1:5000



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## **5.22 OLD ESGAIRLLE PRN 25868 SN796829**

### **General Description**

The Old Esgairlle Mine is a 19<sup>th</sup> century working which had most of its surface features removed by the early 20<sup>th</sup> century, there are no standing buildings shown on the 1906 2<sup>nd</sup> edition 1:10560 OS map. During the last quarter of the 20<sup>th</sup> century forest plantations have obscured much of the Old Esgairlle mine area

The mine site occupies the steep west facing slope of the upper Castell valley and a section of the valley floor. Evidence of mining activity at the site includes a number of old levels and shafts, some of which remain open, and their associated spoil tips. On the valley bottom are the spoil tips of the ore preparation area of the mine, where a few fragmentary remains of buildings and other structures can be made out.

The mine is linked to the wider landscape by a series of leats that fed waterwheels at the mine. These tapped into streams further to the north around Eisteddfa Gurig and the course of at least two such leats can be seen crossing the slopes to the eastern side of the valley. A mine reservoir is located within the bounds of the mine complex as defined on the associated map, but it is not clear if this reservoir fed Old Esgairlle or neighbouring Esgairlle mine. The reservoir dam is intact and still retains water. Two leat courses can be seen leaving the southern end of the Old Esgairlle complex, and they must have taken water from the reservoir or Afon Castell to the Esgairlle site.

Stone mining tools indicative of early mining activity have reportedly been found in this area, which opens up the possibility that there is as yet unidentified archaeological evidence for mediaeval or earlier mining in the vicinity.

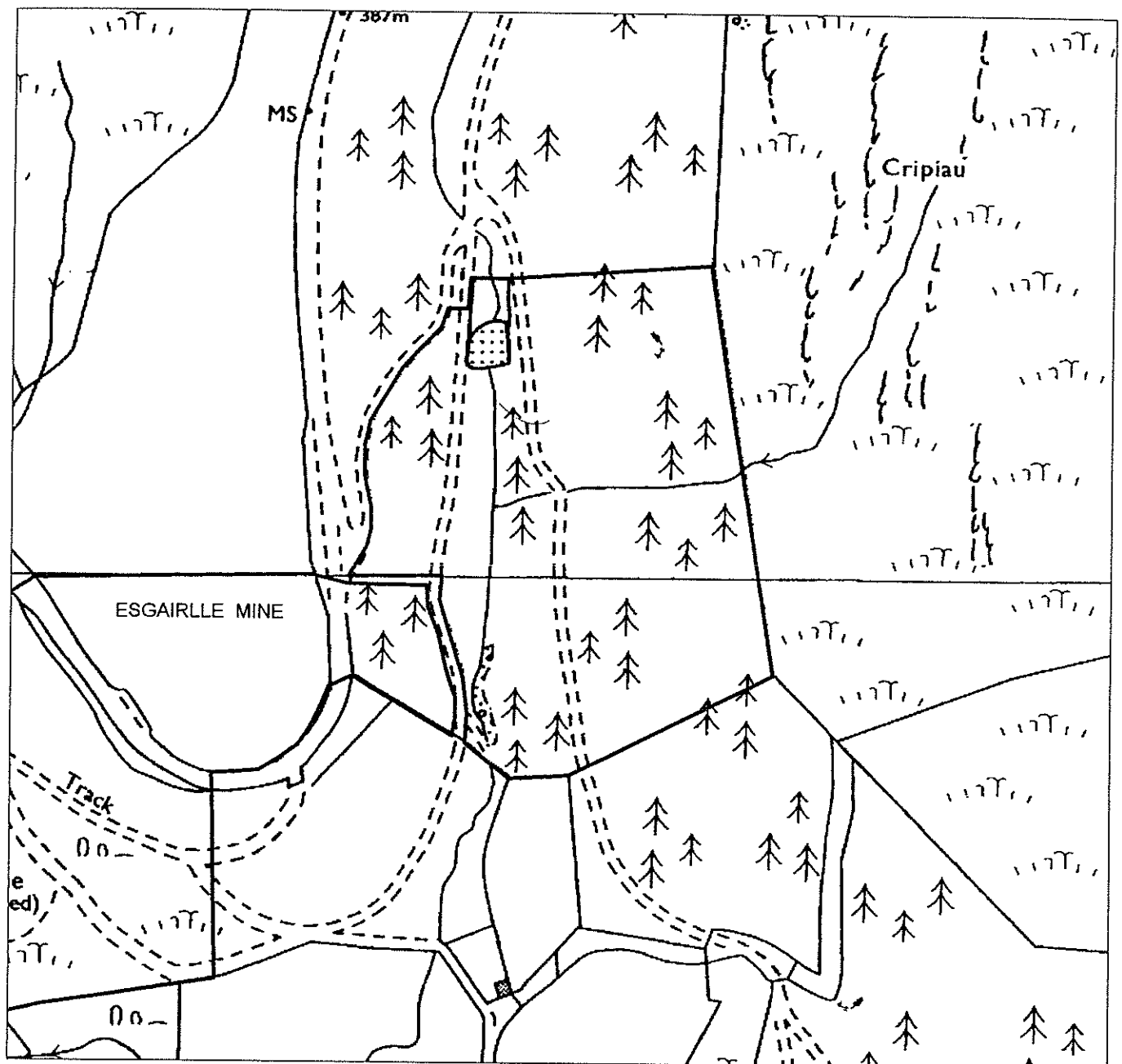
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

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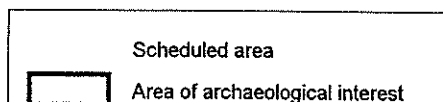
Map 22: Old Esgairlle Mine PRN 25868

Scale 1:5000



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**General Description**

The Rhiwrhigos mine (also known as Erwtomau) was part of the larger Rheidol United group of workings, which was at its peak in the later 19th century, when a great deal of mining activity was carried out across the steep slopes of the south-western side in this part of the Rheidol valley. Finds of stone mining tools in the area also suggest that Rhiwrhigos may be an early mining site and potentially of great archaeological importance.

The Rhiwrhigos workings are now represented by a series of levels, adits and spoil tips, with limited surface evidence for mine buildings, dispersed along the steep course of a minor stream valley which runs for several hundred metres to the south of the Afon Rheidol. At the highest point, to the southwest, is an area of outcropping rock which has been worked as a large open-cut mine, potentially of early date. At the northern extremity of Rhiwrhigos is an ore processing area that is shown to be part of the Gwaith Goch complex on late 19th century OS maps - at that time Rhiwrhigos was certainly an integral part of the Gwaith Goch or Rheidol United complex.

The Rhiwrhigos workings are bordered by the Alltddu workings to the east and the Gwaith Goch and Nantglas workings to the northwest, all workings of the Rheidol sett, which combine to make a major landscape feature, which is highly visible and makes the locality, unmistakably, a mining landscape.

The line of the working Vale of Rheidol railway bisects the mine area. This railway once served the upper part of the mine, and a loading chute was built alongside the track.

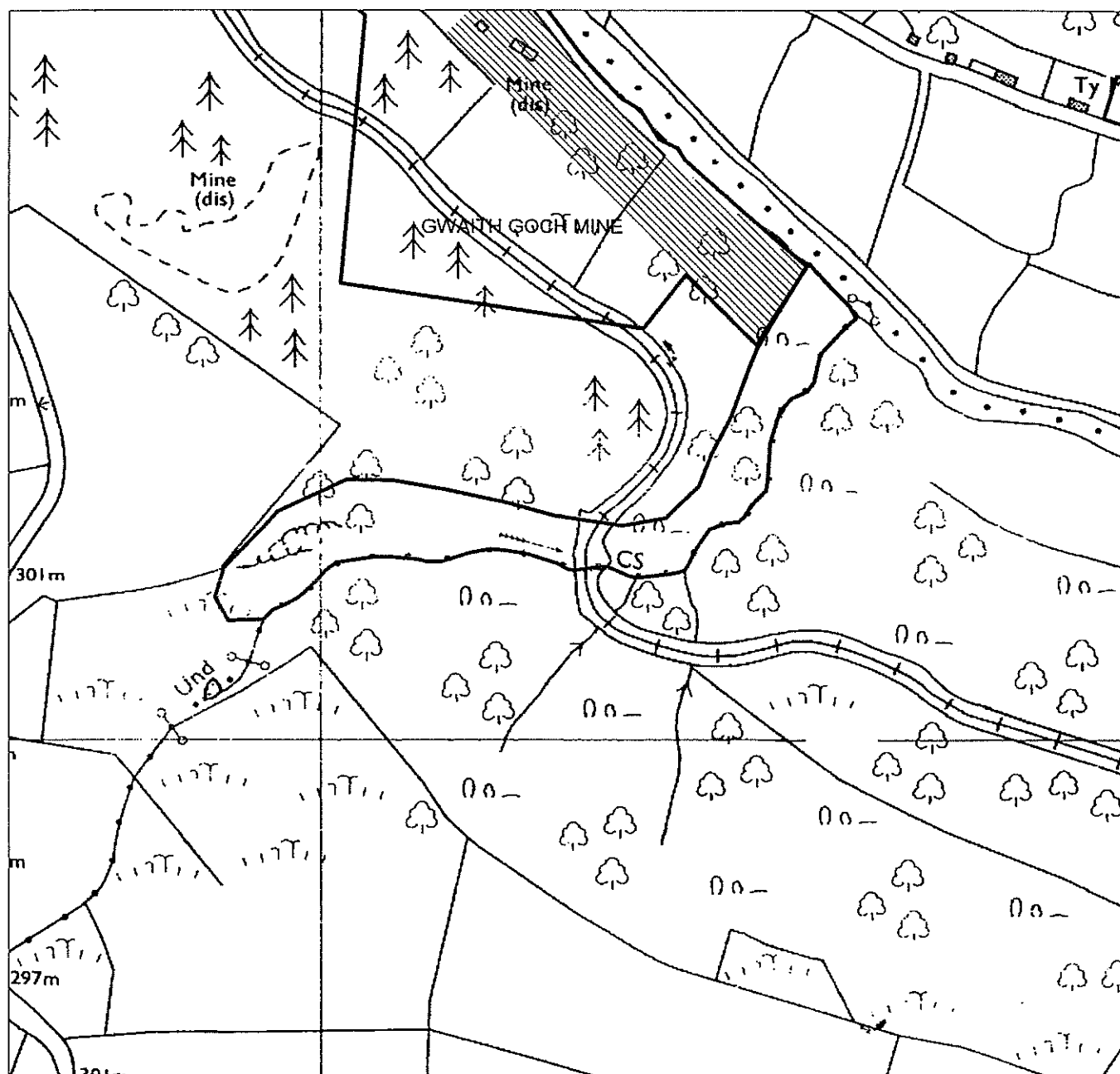
**Mine Boundary**

The boundary shown on the accompanying map is derived from the 1993 notes of Robert Protheroe-Jones.

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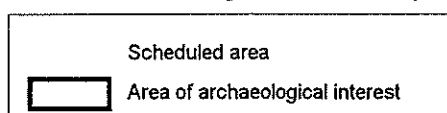
Map 23: Rheidol United (Rhiwrhigos) Mine PRN 25888

Scale 1:5000



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## **5.24 GWAITH GOCH (RHEIDOL UNITED) PRN 25891    SN710786**

### **General Description**

The Gwaith Goch mine was part of the larger Rheidol United group of workings, which were at the peak of their activity during the late 19th century, on the steep slopes on the southwestern side of the Rheidol valley. Gwaith Goch was the largest of these workings by the 1870's, when the 1st edition 1:10560 OS map was surveyed. It possessed a series of levels and shafts on the hillslope above a relatively large ore processing complex on the valley floor, and incorporated the adjoining workings of the rest of the Rheidol sett, which apparently used the Gwaith Goch site to process their ore.

These workings collectively form a major landscape feature dominating this section of the Rheidol valley and Gwaith Goch is therefore the focus of an important mining landscape, with traces of leats, tramways and trackways linking the ore-processing site at Gwaith Goch with the other parts of the Rheidol sett.

A significant portion of the Gwaith Goch ore-processing area has been landscaped in recent years and many buildings and other structures removed. However, it is possible that sub-surface features of archaeological importance still survive in this area and that features have been buried rather than removed completely. Most of the workings on the valley slopes are identifiable and a few buildings around the reclaimed area also survive, including a ruinous mine office building and crusher house and wheelpit.

This site is partly accessible by waymarked public footpaths managed by the CCW and National Power. This accessibility, the picturesque landscape and the range of surviving mining features of interest make this a site with visitor and interpretation potential.

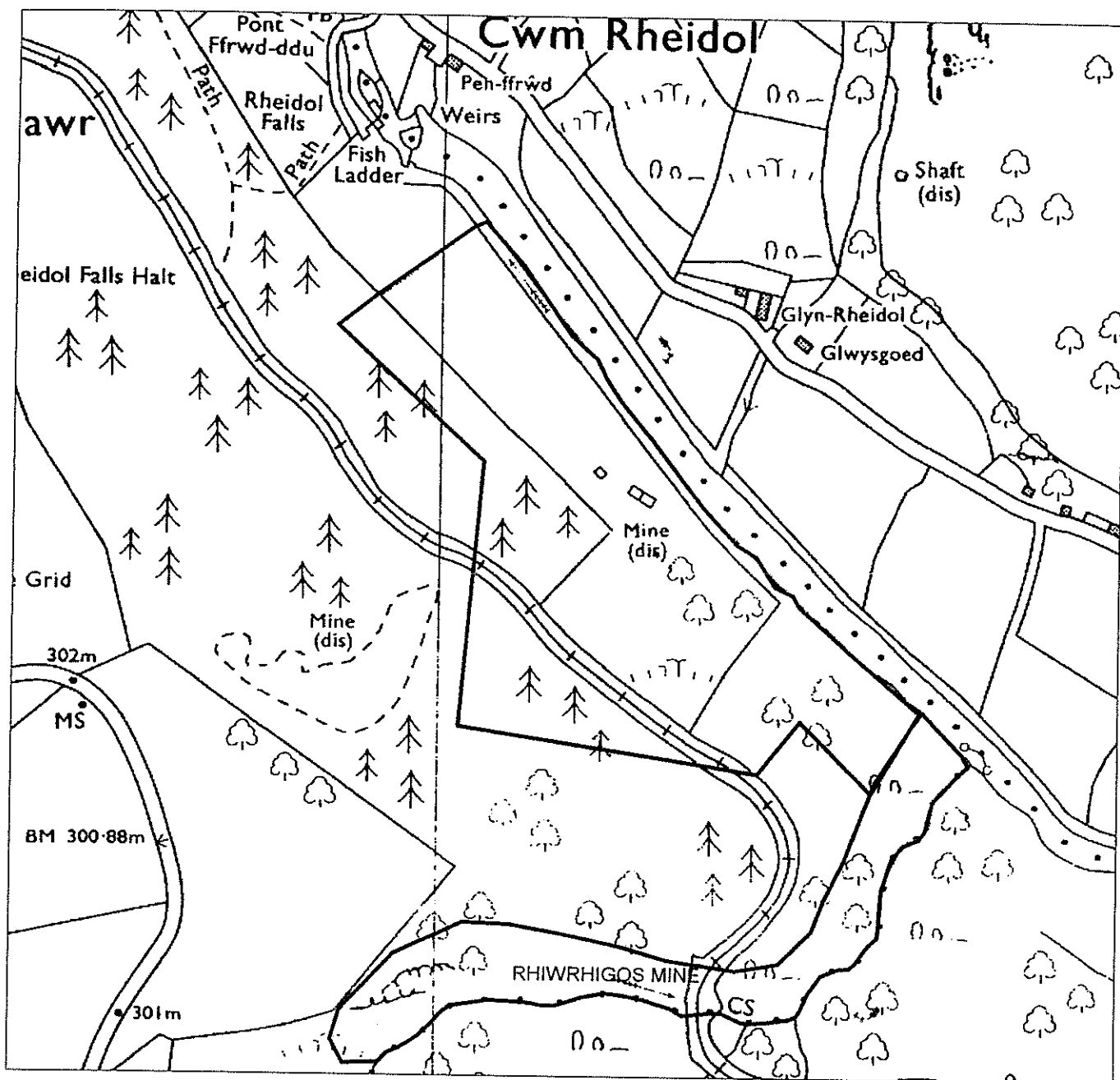
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

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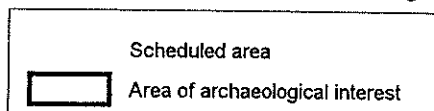
Map 24: Rheidol United (Gwaith Goch) Mine PRN 25891

Scale 1:5000



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## **5.25 CAEGYNON PRN 25897 SN718784**

### **General Description**

The Caegynon Mine probably dates in origin to the early 18th century, but the majority of the features now visible date to the 19th century and the latter period of activity at the site. These include a significant surviving group of mine buildings and other structures associated with the ore preparation processes at the mine, as well as the former mine smithy (now a dwelling), the now roofless mine smith's cottage (undergoing consolidation work), a mine office building (also now a dwelling) and a corrugated-tin storage shed.

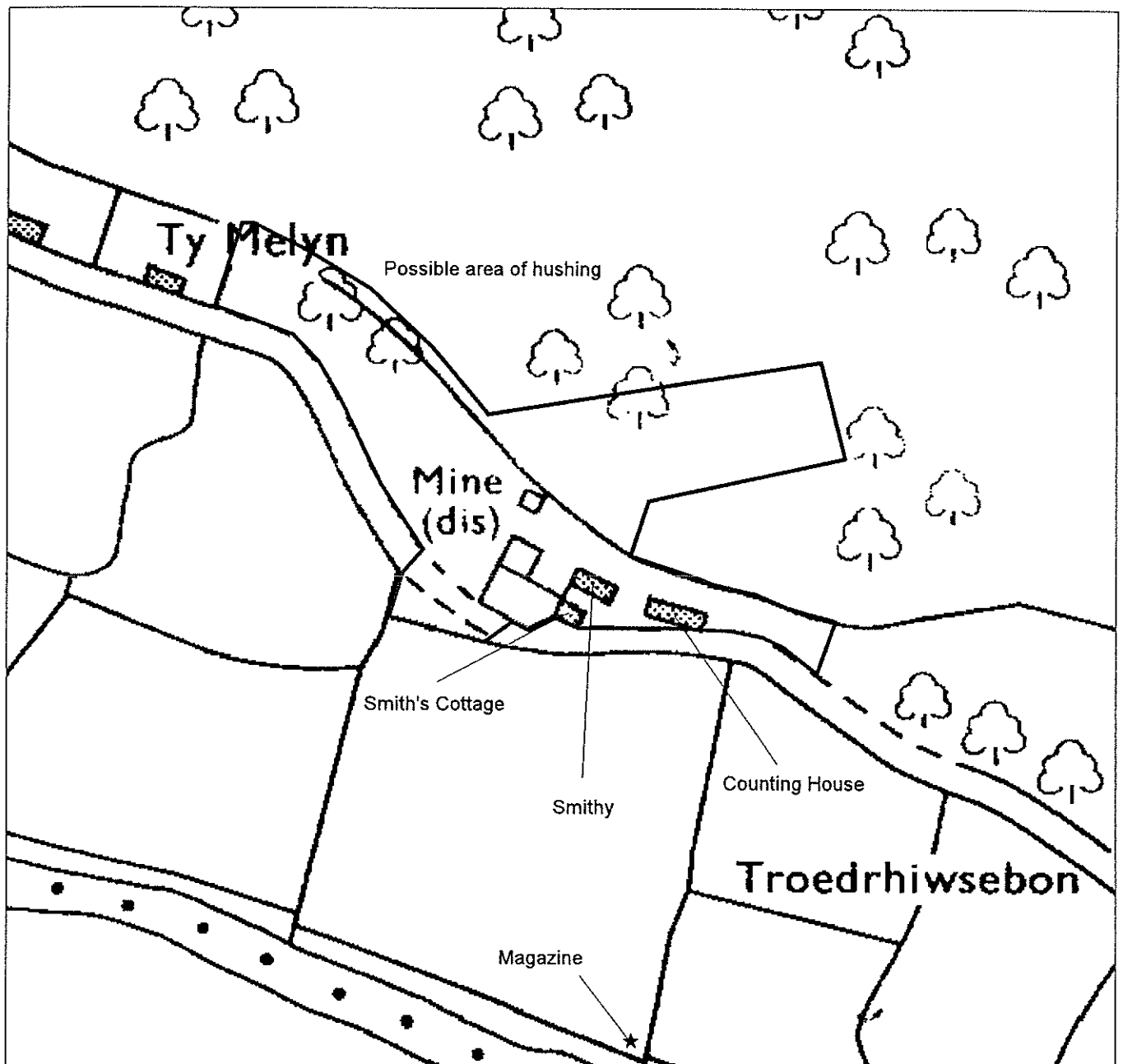
The late 19th / early 20th century ore processing area of the mine is now within the garden area of the dwelling (the converted smithy). Substantial parts of the crusher house still stand, and are in use as a sheltered hard-standing area. Two masonry scars, reputedly blocked-up level entrances can be seen in the revetting wall at the front of this structure, one of which may be the entrance to the lost Deep Adit, which is shown at this point on an annotated map drawn by Robert Protheroe-Jones in 1993. The owner is aware of a tradition that these blocked entrances are former mine workings where ore veins were discovered when the foundations for the crusher were being put in, and subsequently worked out.

It is likely that the earliest mining features at Caegynon are the shallow mine workings upslope to the northeast. Other features that may possibly relate to early activity were noted during the field visit, in the form of three possible hushing scars within the woodland above the dwellings of Ty Melyn and Min Rheidol, west of the mine complex. Also outside the core of the mine are the leat systems that brought water to the site and the 19th century powder magazine that stands, still roofed, in a field corner south of the mine.

### **Mine Boundary**

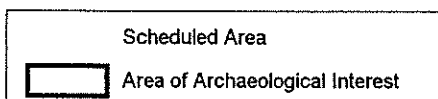
The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

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Map 25: Caegynon Mine PRN 25897  
Scale 1:2500



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### **General Description**

The Ty'n y Fron Mine is known to have been worked for lead, zinc and ochre between the mid-18th and late-19th centuries. Some output returns survive for the 19th century, documenting a relatively low return of lead ore output at 50 tons and zinc ore output at 300 tons.

The focus of mining shifted between the earliest available maps (dating to the mid-18th century) when a series of mine pits close to the house at Tynyfron are depicted, and the late-19th century, when mining was focused lower down the valley side to the south-west, where at least one level was worked by the neighbouring Cwm Rheidol mine.

The workings shown on the 18<sup>th</sup> century estate maps are now mostly within the boundary of a forest plantation, but the craters of these pits can be clearly seen at the forest edge. At least one other pit is in an area of dense scrub outside the forest boundary. There do not appear to be any building remains associated with the mining activity at Tynyfron.

A Bronze Age radiocarbon date was obtained from spoil tips close to Tynyfron house in 1996<sup>1</sup>. These tips are adjacent to the 18th century mine pits and appear to be directly derived from them. The significance of the Bronze Age date is therefore unknown.

During the late-19th century, the “Lefel Fawr” level, which lies further to the south of the 18th century mine pits was worked for its ochre deposits, and the ochreous staining of water flowing from the open level bears witness to this. The ochre was taken by tram from here to the nearby Cwm Rheidol mine for processing. The course of the tramway can still be followed for most of its length.

### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by 18<sup>th</sup> century estate maps, late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

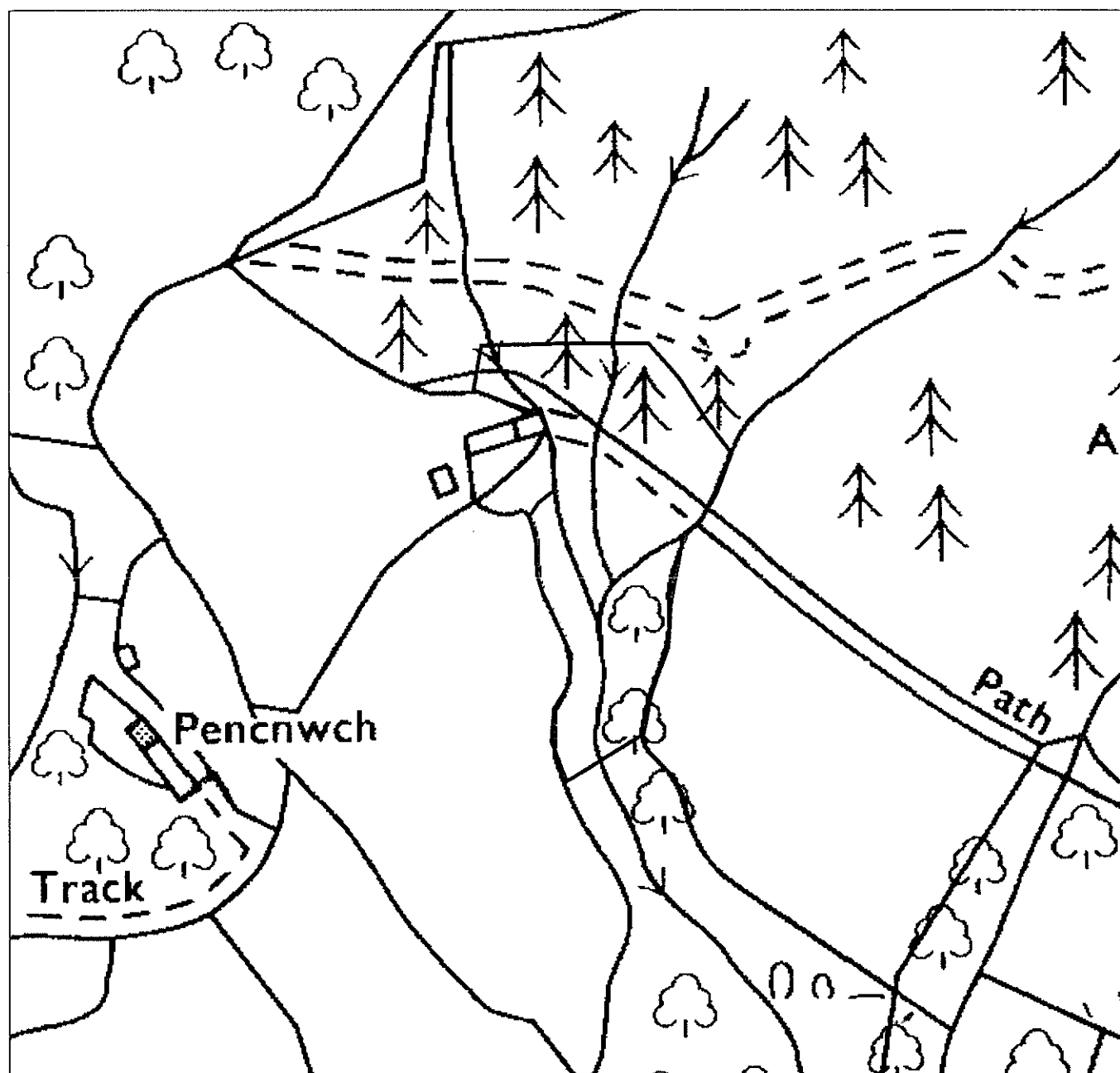
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<sup>1</sup> Timberlake S, 1996, “Ty'n y Fron Mine, Cwm Rheidol” in *Archaeology in Wales Vol. 36, 1996*.

Metal Mines Project 2002-03

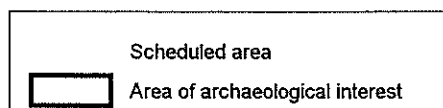
Map 26: Tynyfron Mine PRN 25898

Scale 1:2500



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## **5.27 YSTUMTUEN PRN 25900 SN734787**

### **General Description**

The Ystumtuen Mine is described as an early mining landscape by the Welsh Mines Society (Environment Agency, 2002a, 95). The surface features here are pre-19th century in date and some may be pre-18th century workings.

During the mid-19th century, Ystumtuen was worked via the Alderson level from the nearby Cwm Rheidol mine, as a result there was apparently little surface disturbance of earlier features at the Ystumtuen site. Some modern water diversion schemes have been undertaken to carry water away from the mine, but these have only affected the margins of the mine area thus far and has not seriously impacted on the surface appearance of the site.

The present mine landscape is therefore one of shaft craters, spoil tips and opencut workings, but there are no buildings or other upstanding structures. The mine area is mostly grassed over, presumably due to the fact that many of the workings here were abandoned over 200 years ago.

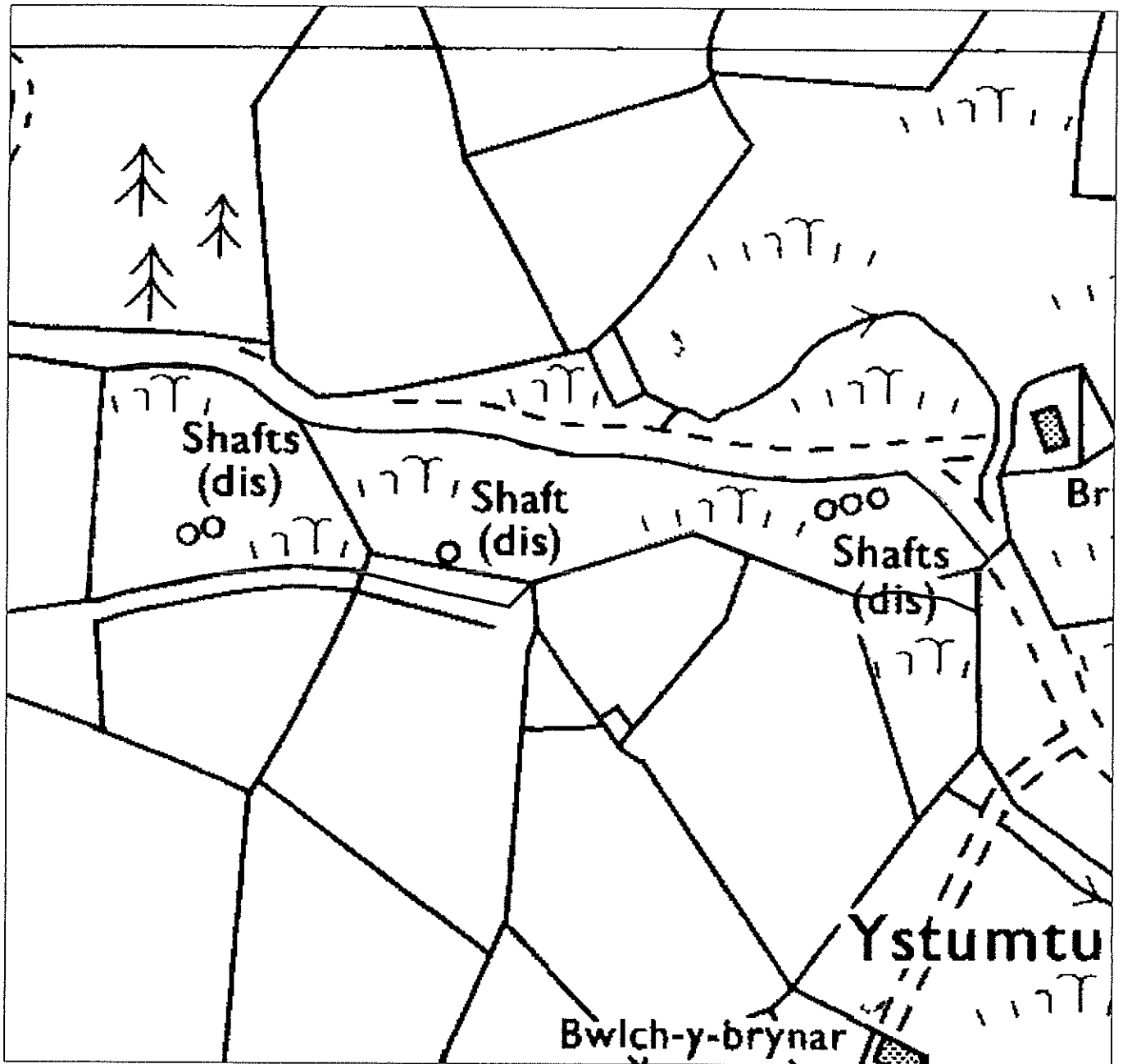
Ystumtuen is set in a landscape in which the mining heritage of the district is clearly felt in terms of both the physical impact on the landscape and the character of the houses and large Wesleyan chapel within Ystumtuen village. The Llwynteifi, Bwlchgwyn, Penrhiw and Ystumtuen workings surround village and the networks of leats and track ways that served these complexes are still to be seen across a wide area.

The wider landscape also appears to have significant potential for non-mining archaeological features. For example, the ruins of Pengarreg farmstead and an associated trackway are to be seen immediately south of the Ystumtuen mine boundary.

### **Mine Boundary**

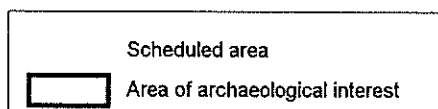
The boundary shown on the accompanying map is derived from the area of former mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

Metal Mines Project 2002-03  
Map 27: Ystumtuen Mine PRN 25900  
Scale 1:2500



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### **General Description**

The Penrhiw Mine is located within the area of the village of Ystumtuen and was mined periodically in conjunction with the neighbouring Ystumtuen, Bwlchgwyn and Llwynteifi workings.

The Penrhiw complex has undergone a major loss of surface features and remarkably little survives in the modern landscape to indicate its former character. The only known structural remains are the fragments of the crusher house and its wheel pit, which have been incorporated into the structure of a modern dwelling/workshop on the site. A small shed at the roadside at the northern edge of the mine area may be a mine building and if so it is the sole surviving structure. The site of the Penrhiw Engine Shaft is evident near the roadside also, but this too has been greatly modified.

Penrhiw is described as being part of an ancient mining sett by the Welsh Mines Society and, despite the loss of surface features, thought to have considerable archaeological potential, such as the buried evidence of ore-processing and evidence of pre-19th century activity.

The historic links between Penrhiw and neighbouring workings reflect the significant contribution that mining has played in the history and development of the wider local landscape, an influence that is still evident and may allow for future interpretation opportunities that include Penrhiw.

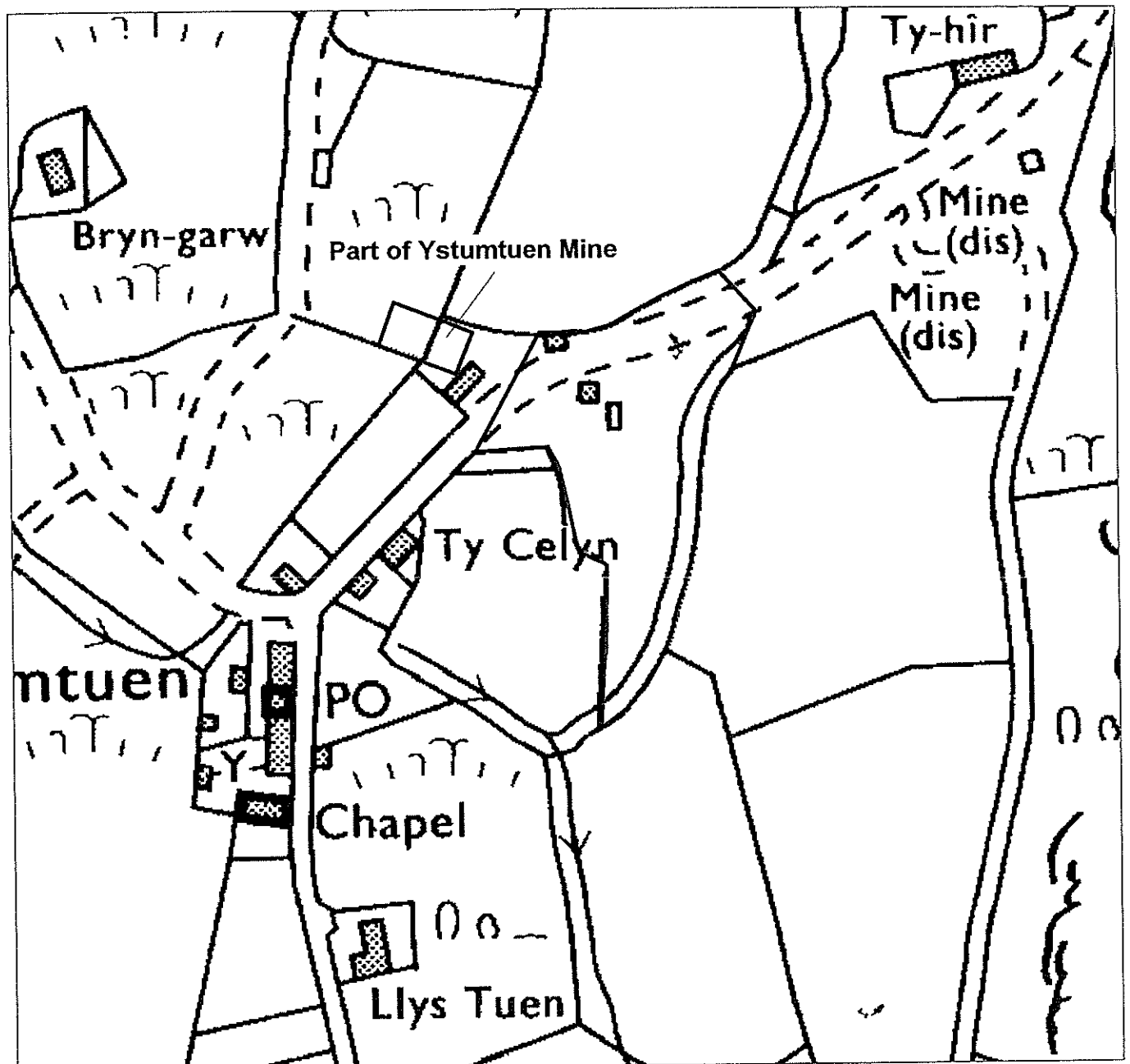
### **Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

Metal Mines Project 2002-03

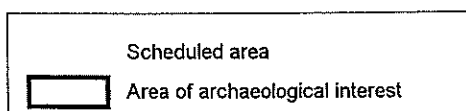
Map 28: Penrhiw Mine PRN 25901

Scale 1:2500



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### **General Description**

Glogfawr is known to have been worked from the 18<sup>th</sup> century until the early 20<sup>th</sup> century and was one of a group of important metal mines in the Ysbyty Ystwyth area that were worked collectively under the ownership of the Lisburne (Crosswood) estate during the 19<sup>th</sup> century. It was worked in conjunction with the neighbouring Glogfach mine for most of that century and they are interrelated in many respects. Glogfach is not addressed in this report, but it is worth noting that access to Glogfawr is best made through the heart of the Glogfach site, which was despoiled by fly tipping for many years. The site was cleared of rubbish in 2001, improving the general appearance of the whole complex and improving access. Glogfawr also ranks amongst the most visible of all the Ceredigion metal mines, with large spoil tips cascading down the steep slopes at the southern edge of the complex, forming a dramatic and attractive landmark.

The mine complex also has high archaeological potential, with many surface features still identifiable and a considerable amount of sub-surface archaeology likely to survive, much of it predating the 19<sup>th</sup> century. The rapid visit in 2002 found that little change had occurred since the site was visited by Protheroe-Jones in 1993. Open shafts, levels, tramway beds, flat rod channels, the cobbled dressing mill floor can be seen at the western side of the complex. A large reservoir still holds water in the centre of the mine, near to which is an early 20<sup>th</sup> century working, the Davey Shaft, complete with the mounting of its oil-driven winding engine, the remains of an associated concrete crushing mill and a series of buddles and settling tanks. The line of the tramway that linked the shaft to the crushing mill can still be seen. Further east, and detached from the main part of the mine, is the open, rock-cut Penybwlch Shaft and its associated tips and level. This is a relatively rare example of a surviving inclined shaft.

Underground workings containing many features of importance are also known to be accessible via the Lefel Fawr, which was used during the 19<sup>th</sup> century to drain the workings and also carry ore to the processing works at Pontrhydygroes.

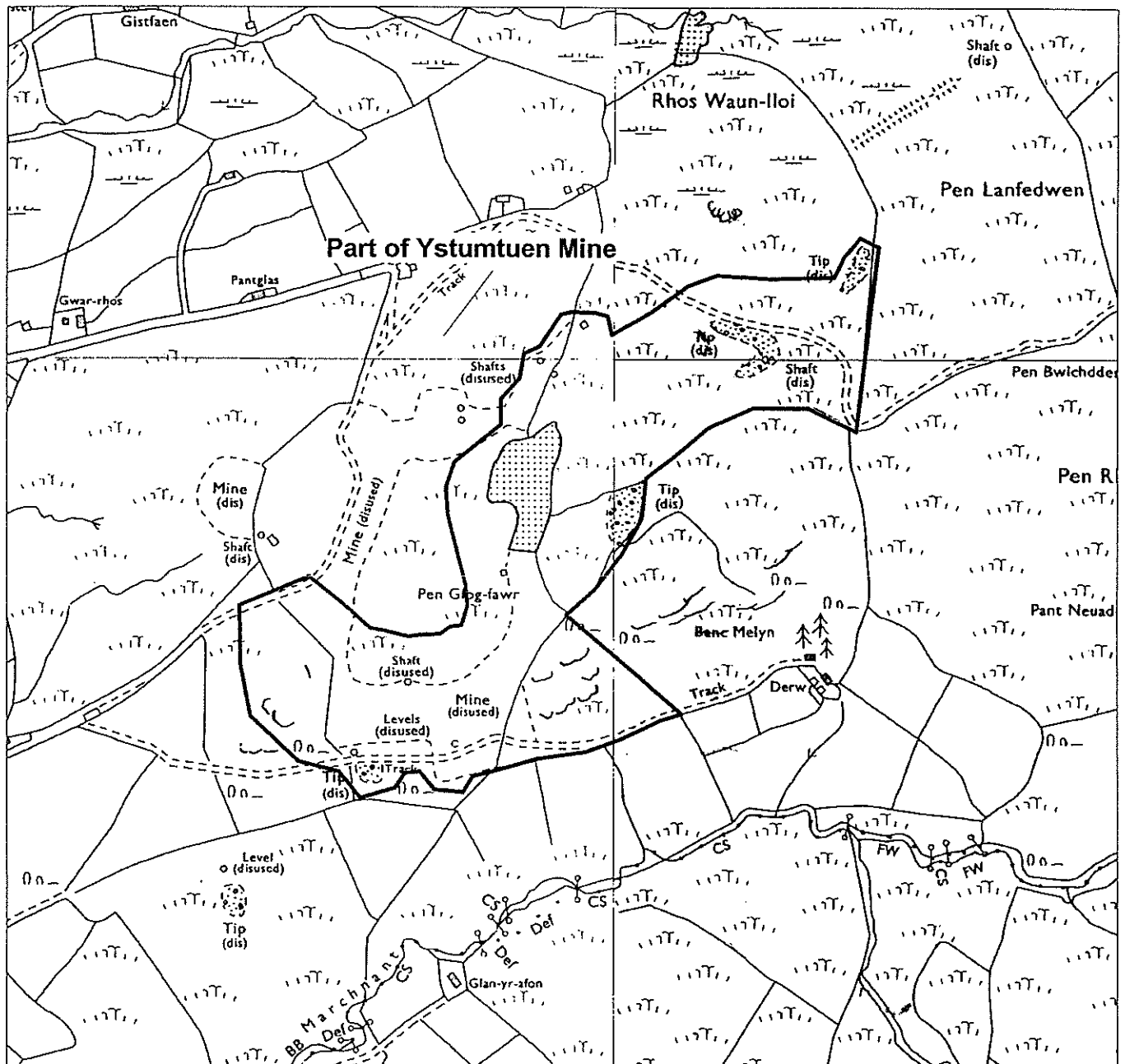
### **Mine Boundary**

The boundary shown on the accompanying map is based on the area of mining activity shown by late 19<sup>th</sup> century OS surveys and the notes of Robert Protheroe-Jones. The boundary between Glogfawr and Glogfach given by Protheroe-Jones is adhered to, although it is important to note the close relationship between the development of the two mines.

# Metal Mines Project 2002-03

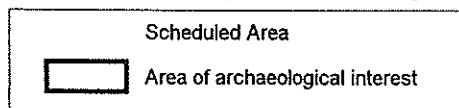
Map 29: Glogfawr Mine PRN 25932

Scale 1:8000



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**General Description**

The Graig Goch Mine was the most westerly working on the Frongoch lode. The mine site extends from the valley floor of the Cwmnewydion river and up onto the slopes of the southern side of the valley.

The Graig Goch mine was worked between 1840-1889 and its site remained largely undisturbed until recently. During the past decade a new trackway through the mine complex has caused the loss of some features described by Robert Protheroe-Jones in 1993. This includes the loss of a rare example of the course of a wooden flat-rod system with some fixings still *in situ*.

Nevertheless, some structures survive, including several ruinous buildings and a relatively well preserved crusher-house. There are also a number of shafts and levels on site, with their associated spoil tips. The ore processing area appears to be relatively undisturbed and is thought likely to have some archaeological potential. There are also a pair of relatively well-preserved slime pits on the valley floor.

Graig Goch is a significant component in the local landscape and is within sight of the Wemyss and Frongoch mines to the east. The large power generation station of the Wemyss/ Frongoch mine is to be seen just a few hundred metres northeast of Graig Goch. These features all combine to make mining one of the dominant landscape influences in the upper Cwmnewydion valley.

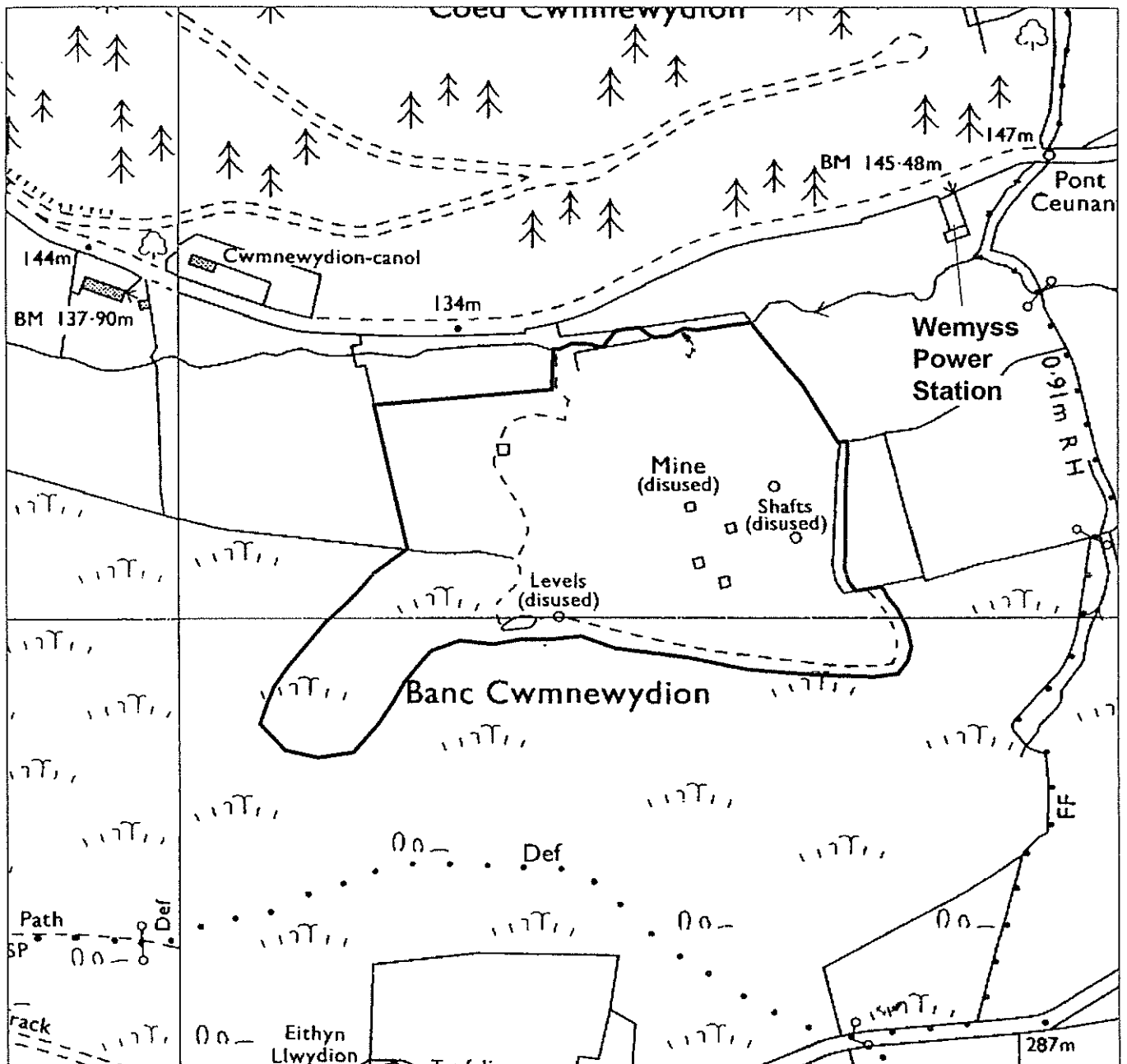
**Mine Boundary**

The boundary shown on the accompanying map is derived from the area of mining activity shown by late 19<sup>th</sup> century OS surveys, the 1993 notes of Robert Protheroe-Jones and recent field observation.

# Metal Mines Project 2002-03

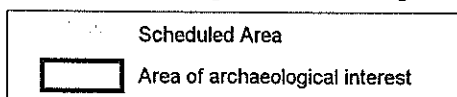
Map 30: Graig Goch Mine PRN 25917

Scale: 1:2500



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## **APPENDIX 1: THE CEREDIGION METAL MINES PROJECT (1993)**

### **1. Project Objectives**

Robert Protheroe-Jones undertook the Ceredigion Metal Mines Project in 1993, in conjunction with the Dyfed Archaeological Trust (DAT) and funded by the RCAHMW as part of the Uplands Initiative.

The project design was produced during 1992 and set out on a document retained in the project archive, dated August 7<sup>th</sup>, 1992. It is replicated in full here:

#### **A. AIMS:**

- To assess the current state of preservation, conservation and recording requirements (of Ceredigion's metal mines)

#### **B. METHODS:**

- Review existing state of knowledge.
- Establish source material and compile bibliography and indexes
- Investigate details of current management proposals and programmes
- Initiate visits to selected sites and provide outline description, plan (annotated enlarged OS 1:2500) ground photographic and air photographic record.

#### **C. TASK BREAKDOWN:**

##### **1. Review and compile documentation for mine sites**

- 1.1 Ascertain total outputs from historical sources
- 1.2 Obtain copies of 1<sup>st</sup> edition 1:2500 OS maps for each mine
- 1.3 Assemble general bibliography for Ceredigion Mines
- 1.4 Compile source list and bibliography for individual mines
- 1.5 Collate information on recent and current archaeological survey and investigation of Ceredigion mine sites
- 1.6 Compile lists of trial sites, multiperiod sites and single period sites
- 1.7 Revise existing DAT lists and produce distribution maps

##### **2. Review current state of protection and threats**

- 2.1 Establish current and proposed extent of scheduling / listing
- 2.2 Investigate details of current DCC/WDA programmes
- 2.3 Investigate details of current Ceredigion DC/WDA programmes

##### **3. Undertake selective field investigation**

- 3.1 Determine criteria for the selection of sites for visits (including potential surviving historic landscape quality – associated leats.
- 3.2 Select sites for visits
- 3.3 Inaugurate programme of air-photography
- 3.4 Visit sites
- 3.5 Ascertain extent of surviving remains
- 3.6 Ascertain quality of surviving remains
- 3.7 Undertake rapid mapping (annotated enlarged 1:2500 base), description and photographic recording sufficient to illustrate 3.4.1 and 3.4.2.

#### **4. Review the assembled data**

4.1 Consider and determine the needs and priorities for future recording

4.2 Consider and review methodologies for detailed recording

4.3 Consider development of ranking systems taking into account known historical importance, and relative importance of features

4.4 Discuss conclusions with RCAHMW

#### **5. Compile report**

##### **5.1 Compile text**

5.1.1 Briefly review background history of Ceredigion mines, historiography, recent research, and significance and importance of individual sites

5.1.2 Review relative historical significance and importance of individual sites

5.1.3 Provide summary description of surviving remains and review significance in relation to 5.1.2 above

5.1.4 Review threats and current management proposals, and assess likely impact

5.1.5 Review and discuss priorities in terms of detailed field recording

5.1.6 Make any additional recommendations

5.2 Format schedules for individual sites, determine and produce appendices and tables, and produce indexes to documentation and field indexes

5.3 Prepare illustrations for report

5.4 Produce report using DTP facilities

5.5 Submit report to RCAHMW

#### **D. OUTLINE TIMESCALE AND TIMETABLE**

NB. Since this report will involve a number of personnel with intermittent input at different stages, work on the project will not necessarily take place on a continuous basis.

<b>Task</b>	<b>Estimated duration</b>	<b>Anticipated period</b>	<b>Reporting dates</b>
1. Review and compile documentation	2 weeks	Aug/Sept 1992	2.10.92
2. Review current threats	2 weeks	Early Sept 1992	2.10.92
3. Field investigation	5.5 weeks	Oct/Nov 1992 APs Oct/Dec 1992	18.12.92
4. Report compilation	4.5 weeks	Jan/Feb 1993	19.2.93
5. Production and Submission	1 week	March 1993	19.3.93

NB Reporting dates are target dates by or before which progress will be reported to RCAHMW.

#### **E. PROJECT MANAGEMENT AND STAFFING**

Project team of Don Benson (DAT Director); Heather James (DAT Principal Curatorial Officer) Robert Protheroe-Jones (NMW); E Morgan (DAT Records Officer); N Ludlow (draughtsperson); C Musson (Air photography – private time).



The project will be supervised by H James. The bulk of the project work will be carried out by R Protheroe-Jones with additional field and record input when and where required, from E Morgan and AN Other. The report will be compiled by H James and R Protheroe-Jones, who will also hold internal review meetings at appropriate intervals.

#### F. COST ESTIMATES

- Project budget was £6842

## 2. Project Outputs

A considerable archive was produced by the project and has been kept by the Dyfed Archaeological Trust. Key information about the metal mines of Ceredigion was also entered into the Regional Sites and Monuments Record by DAT staff in the spring of 1993. However, the reporting stage was unfortunately never completed and for this reason the content of the archive is little known outside the small number of people involved in the original work, most of who have since retired or left the field of archaeology. The ambition of this useful exercise to produce a definitive statement on the past, present and future of the Ceredigion metal mines therefore never fully materialised. That is not to say that the exercise was invalidated in anyway, for the project archive has been continually drawn upon by DAT staff and other researchers and the information within the archive and the Regional SMR has constantly helped to inform the planning and development process.

The most important project output is a series of record sheets for each of the 252 sites within the county of Ceredigion examined by the project. 250 of these are mines or ore processing complexes, 2 are for barrack buildings (11a & 88a). A further two features are described in field notes only, namely the Cwmbwrwyno leat siphon and the Pont Ceunant Generator House (106a & 159a) (See Table A below). Each record sheet (see appended example below) includes the following information:

**Name of mine**

**NGR**

**Synonyms (Alternative names by which the mine was known)**

**Estimated output (in tons) of Lead, Zinc or Copper concentrates**

**Altitude**

**1:2500 OS County Sheet Number**

**Known Early Mine Site?**

**References**

It should be noted that the record sheets 8, 181a and 189 are absent from the archive (possibly they were deleted from the record).

125 of these were visited by Protheroe-Jones, for which annotated maps and detailed field notes accompany the basic record sheet. These provide a significant aid to anyone interested in the interpretation or management of the archaeological resource (although they cannot be said to be comprehensive).

These record sheets contain all of the information that was gathered by following the Task Breakdown, which is given in Section C of the Project Design above. The Task Breakdown has to be analysed point by point to provide a coherent overview of the outputs of the project. Comment is added in bold italics.

### **TASK BREAKDOWN**

#### **1. Review and compile documentation for mine sites**

##### **1.1 Ascertain total outputs from historical sources.**

*Appears to have been completed. There are entries giving output estimates on the mine record forms*

##### **1.2 Obtain copies of 1<sup>st</sup> edition 1:2500 OS maps for each mine**

*Appears to have been done.*

1.3 Assemble general bibliography for Ceredigion Mines

*Appears to have been done in conjunction with 1.4*

1.4 Compile source list and bibliography for individual mines

*A site-specific bibliography is presented on each mine record form.*

1.5 Collate information on recent and current archaeological survey and investigation of Ceredigion mine sites

*No material of relevance to this has been seen in the SMR archive*

1.6 Compile lists of trial sites, multiperiod sites and single period sites

*Such a list appears to have been drafted and is found in the project archive*

1.7 Revise existing DAT lists and produce distribution maps

*A draft distribution map does exist in the archive. The DAT SMR was revised, with a large number of new sites being entered into the SMR for the first time.*

## **2. Review current state of protection and threats**

2.1 Establish current and proposed extent of scheduling / listing

*A list was drafted and is included in the archive, but it has been superseded by later events and is now out of date and of no relevance*

2.2 Investigate details of current DCC/WDA programmes

*Notes regarding some reclamation projects are found in the archive, but these too are now outdated and of only passing interest.*

2.3 Investigate details of current Ceredigion DC/WDA programmes

*As 2.2*

## **3. Undertake selective field investigation**

3.1 Determine criteria for the selection of sites for visits (including potential surviving historic landscape quality – associated leats.

*Such detailed criteria have not been seen by this author in full, but the archive includes lists of sites which contain references to output, antiquity etc., which are presumably related to the initial steps taken in determining criteria for the selection of sites to be visited.*

3.2 Select sites for visits

*The existence of site visit records shows that this was done. The criteria for selection are not known.*

3.3 Inaugurate programme of air-photography

*This was undertaken by Chris Musson during 1992-3 and a collection of APs for many mines is contained in the archive. These have not been catalogued however.*

3.4 Visit sites

*Visits were undertaken to 125 sites and detailed notes, ground photographs and annotated maps are included in the archive. The notes and maps have been integrated into the general SMR archive and are regularly consulted. Ground photographs of the sites visited during 1992-3 were*

*kindly deposited in the archive by Robert Protheroe-Jones in 2002, but they have not yet been integrated into the SMR.*

3.5 Ascertain extent of surviving remains

*The detailed notes made during site visits deal with this requirement for those sites that were visited. There is however no information for those (mostly minor) sites that were not visited. It is worth noting that major mine sites in Carmarthenshire and Pembrokeshire were not covered by the project.*

3.6 Ascertain quality of surviving remains

*As 3.5*

3.7 Undertake rapid mapping (annotated enlarged 1:2500 base), description and photographic recording sufficient to illustrate 3.4.1 and 3.4.2.

*This was completed for the 125 sites visited (see 3.4).*

**4. Review the assembled data**

4.1 Consider and determine the needs and priorities for future recording

*This process was begun but it is not clear if any submissions were made to the RCAHMW as a final report was never drawn together.*

4.2 Consider and review methodologies for detailed recording

*No relevant material appears to exist in the archive.*

4.3 Consider development of ranking systems taking into account known historical importance, and relative importance of features

*This does not appear to have been finalised, although much of the material gathered may contribute to such a process.*

4.4 Discuss conclusions with RCAHMW

*It is not known if such conclusions were discussed.*

Table A: List of sites for which record sheets exist. Empty rows or fields represent gaps in the paper archive. Sites included in the 2002-3 Metal Mines Project are emboldened.

Protheroe Jones Record Number	PRN	Name	NGR	Visited. Map & field notes available
1	25800	Ynys Hir	SN682958	
1a	25801	Eglwysfach	SN690957	
2	25802	Caerhedyn	SN710974	
3	25803	Maescylin	SN731974	
4	25804	Brwyno Uchaf	SN727963	
5	25805	Bwlchymaen	SN709948	
6	25806	Cae Mardin	SN712947	
7	9179	Ystrad Einion	SN707938	Yes
8				
9	25808	Blaeneinion	SN733230	
10	25809	Bryn Melyn	SN735925	
11	25810	Creigiau Duon	SN704907	
11a		Barracks	SN	Yes
12	25811	Llechwedd Llwyd	SN707906	Yes
13	8335	Blaenceulan	SN716905	Yes
13a	25812	West Blaenceulan	SN712903	
14	25813	Bwlch y Garreg	SN725808	
15	5626	Esgairhir	SN734913	Yes
16	5626	Esgairffraith	SN742912	Yes
17	25814	Lluest Grafia	SN750913	
18	25815	Loveden	SN668940	Yes
19	25816	Ty'n y garth	SN692946	
20	5445	Bryndyfi	SN687938	Yes
21	25818	Ynys	SN681932	
22	25819	Llwynwallter	SN629929	
23	25820	Ty'n y llwyn	SN651924	
24	19500	Llancynfelin	SN651920	Yes
25	25821	Ty'n y wern	SN661924	
26	19501	Dolclettwr	SN659919	Yes
27	25822	Lletty'r Fran	SN675924	
28	25823	Llwyn Crwn	SN673928	
28a	25824	Cefngwion	SN675932	
29	25825	Tre'rddol	SN667929	
29a	25826	Lodge Park	SN665926	
30	25827	New Bog	SN650917	
31	19504	Pwll Roman	SN657915	Yes
32	25828	Penybanc	SN657905	Yes
33	19507	Erglodd	SN657903	Yes
34	9147	Penpontbren	SN658901	Yes
35	19520	Brynarian	SN664915	Yes
36	9146	Pensarn	SN667912	Yes
36a	25829	Coed Gwarcwm	SN669919	
37	25830	Cae'r Arglwyddes	SN693919	
38	5446	Tanyrallt	SN651900	Yes
39	25831	Ty'n y Craig	SN669902	
39a	25832	Tymawr	SN669900	
<b>40</b>	<b>25833</b>	<b>Alltycrib</b>	<b>SN648894</b>	<b>Yes</b>
41	25834	Llwynadda	SN644895	Yes
42	25835	Allt Goch	SN638880	
42a	26656	Ty'n ycae	SN645884	
43	25836	Cilolwg	SN621878	
44	25837	Pwll Glas	SN629865	

45	25838	Afon Ceulan	SN661898	
46	25839	Neuadd Fawr	SN664895	
47	25840	Tygwyn	SN665892	
48	25841	Berthlwyd	SN662892	
48a	25842	Penycae	SN662887	
49	9130	Penpontbren Uchaf	SN624882	
50	25843	Cynull Mawr	SN659873	
51	9132	Cefngwyn	SN679869	Yes
52	9131	Moelgolomen	SN698872	Yes
53	25844	Ty Nant	SN695887	
54	25845	Bwlchydderwen	SN699891	
55	9133	Elgar	SN662860	Yes
56	9134	Mynydd Gorddu	SN668861	Yes
57	9135	Penycefn	SN655856	Yes
58	25846	East Penycefn	SN662857	Yes
59	25847	Llanerch	SN695858	
60	25848	Elerch	SN685861	
61	5497	Llawrcwmbach	SN707854	Yes
62	9635	Llechweddhelyg	SN681848	Yes
63	9141	Llettyhen	SN694849	Yes
64	9626	Gwaithyrafon	SN690839	Yes
65	25525	Cerigyrwyn	SN684836	Yes
66	5425	Cwmsymlog	SN698837	Yes
67	25849	Cwmdaren	SN682834	Yes
68	9629	South Daren	SN685830	Yes
69	8336	Cwmerfin	SN696829	Yes
70	24563	Llechweddhen	SN663825	Yes
70a	25850	Penrhiwnwydd	SN660840	
71	5424	Bronfloyd	SN660834	Yes
71a	25851	North Bronfloyd	SN658838	
72	25852	Cefnllwyd	SN656829	
73	8337	Darren	SN675828	Yes
73a	25853	Junction Mine	SN673826	
74	8934	Brynpica	SN698822	Yes
75	9142	West Goginan	SN669807	
75a	25854	Bronlangwrda	SN660806	
76	19362	West Cwmerfin	SN676816	Yes
77	25855	Cyncoed	SN676810	
78	8338	Goginan	SN690817	Yes
79	9161	Bwlchglas	SN709878	Yes
80	25856	Cyneiniog	SN726880	
81	9164	Henfwlch	SN737883	Yes
82	9166	Hafan	SN730880	Yes
83	9162	Eaglebrook	SN736892	Yes
84	9163	Camdwr Bach	SN745892	Yes
85	22396	Nantycwpl	SN742880	
86	9165	Brynyrafar	SN745879	Yes
86a	25857	North Brynyrafar	SN742885	
87	25858	Spain	SN734885	
88	9168	Camdwr mawr	SN751887	Yes
88a	9168	Barracks	SN750878	
89	21462	Drosgol	SN763882	
90	25859	Nantymoch	SN764867	
91	25860	Llyn Llygad	SN793873	
92	9636	Bwlchystyllen	SN732863	Yes
93	9177	Plynlimon	SN796858	Yes
94	25861	Cwmsymlog North	SN704838	
95	25862	Hirnant	SN762833	

95a	25863	West Plynlimon	SN765840	
95b	25864	Peithnant	SN775845	
96	25865	Nantcaerhedyn	SN755829	
96a	25866	Dinas	SN746835	
96b	25867	Tynyrhos	SN746828	
97	9176	Nant Nod	SN792839	Yes
<b>98</b>	<b>25868</b>	<b>Old Esgairlle</b>	<b>SN796829</b>	<b>Yes</b>
<b>99</b>	<b>9173</b>	<b>Esgairlle</b>	<b>SN791827</b>	<b>Yes</b>
99a	25869	Hirgoed Ddu	SN804836	
100	5415	Ceunant	SN708827	Yes
101	8339	Bwlch	SN702823	Yes
101a	26649	Pwllrhenaidd	SN704825	Yes
102	25870	Level Newydd	SN706823	Yes
103	8936	Pencraigddu	SN710824	Yes
104	21436	Nantyrarian	SN705815	Yes
105	25871	Esgair Nantyrarian	SN709817	
106	9170	Cwmbrwyno	SN713805	Yes
106a	****	Cwmbrwyno Leat		Yes
<b>107</b>	<b>5604</b>	<b>Poole's Llywernog</b>	<b>SN732809</b>	<b>Yes</b>
<b>108</b>	<b>19839</b>	<b>Powell's Llywernog</b>	<b>SN729808</b>	<b>Yes</b>
108a	25872	West Powell	SN725807	
<b>109</b>	<b>9169</b>	<b>Bog</b>	<b>SN739814</b>	<b>Yes</b>
110	19843	Clara	SN737806	Yes
111	25873	Ponterwyd	SN743807	Yes
112	25874	Glan Castell	SN752814	
113	25775	Brynglas	SN758816	Yes
113a	25876	Cefn y Gelli	SN767819	
113b	25877	West Brynglas	SN755813	
114	25878	Parc Gwyn	SN762801	
<b>115</b>	<b>9171</b>	<b>Castell</b>	<b>SN775813</b>	<b>Yes</b>
116	9178	Nantyreiau	SN790802	Yes
117	25879	Fagwr Fraith	SN826813	
118	25880	Nantyrone	SN667777	
118a	25881	Twednincrean (sic)	SN665777	
119	19135	Cefn Nantyrone	SN671781	
120	25882	Abernant	SN680785	Yes
121	25883	Aberffrwd	SN688788	Yes
121a	9128	Gothic	SN701793	Yes
122	25885	Pantmawr	SN704784	Yes
123	25886	Geufron	SN700784	
124	25887	Nantglas	SN709784	Yes
<b>125</b>	<b>25888</b>	<b>Rhiwrhigos</b>	<b>SN711782</b>	<b>Yes</b>
126	25889	Foxpath	SN708786	Yes
127	25890	Alltddu	SN714782	Yes
<b>128</b>	<b>25891</b>	<b>Gwaithgoch</b>	<b>SN710786</b>	<b>Yes</b>
129	25892	Blaencennant	SN697770	Yes
130	25893	Llanilar	SN612746	
131	9127	Tyllwyd	SN698796	Yes
132	25894	Gellieirin	SN703795	Yes
133	9339	Bwadrain	SN712797	Yes
134	25895	South Bwadrain	SN713788	Yes
135	25896	Llwynteifi	SN742789	Yes
<b>136</b>	<b>25897</b>	<b>Caegynon</b>	<b>SN718784</b>	<b>Yes</b>
<b>137</b>	<b>25898</b>	<b>Tynyfron</b>	<b>SN724785</b>	
<b>138</b>	<b>25900</b>	<b>Ystumtuen</b>	<b>SN734787</b>	<b>Yes</b>
<b>139</b>	<b>25901</b>	<b>Penrhiw</b>	<b>SN736786</b>	<b>Yes</b>
140	8747	Bwlchwyn	SN738787	Yes
<b>141</b>	<b>5472</b>	<b>Cwmrheidol</b>	<b>SN731783</b>	<b>Yes</b>

142	9342	Temple	SN749793	Yes
142a	19895	East Llwynteifi	SN750792	
143	9354	Crown	SN758799	Yes
144	25902	Nantsyddion	SN773790	
145	25903	North Nantsyddion	SN777793	
146	25904	West Nantycreiau	SN782797	Yes
146a	25905	Esgair Gwinion	SN780799	
147	25906	Ysbyty Cynfyn	SN761787	
148	25907	Dolwen	SN780783	
148a	25908	East Dolwen	SN784784	
149	19896	Ty Gwyn	SN772775	Yes
150	25909	Nant Rhuddnant	SN775777	Yes
151	25910	East Nant Rhuddnant	SN781779	
152	25911	Llaneither	SN766770	Yes
153	5476	Bodcoll	SN759769	Yes
153a	25912	West Bodcoll	SN756767	
154	25913	Brignant	SN747759	
155	25914	Brignant Uchaf	SN751754	
156	24584	East Frongoch	SN730746	
157	24585	Tan y Llethr	SN734748	
158	9151	Frongoch	SN723745	Yes
159	23230	Wemyss	SN716742	Yes
159a		Pontceunant Generator		Yes
160	25915	West Frongoch	SN709743	Yes
161	25916	Glan Dwgan	SN709750	
162	25917	Graig Goch	SN705741	Yes
163	8343	Pantauhirion	SN704729	Yes
164	25918	Gwaith Goch	SN710724	Yes
165	9152	Grogwynion	SN714723	Yes
166	25919	Pontrhydygroes	SN733728	
167	25920	Ty'nyglog	SN787745	
167a	25921	East Hafod	SN784741	
168	8342	West Cwmystwyth	SN795740	
169	24586	Logaulas	SN740716	Yes
169a	9153	Lefel Fawr	SN739722	Yes
169b	25922	Penygist	SN745716	Yes
170	25923	Pantygwaith	SN747723	Yes
171	25924	Waen Loi	SN753714	
172	25925	Pantyffynnon	SN759719	
173	25926	Tycoch	SN755725	
173a	25927	South Hafod	SN759717	
174	25928	Level Lampwil	SN775726	
174a	25929	Chambers Cross Cut	SN766738	
175	25930	Dologau	SN773735	
176	25931	Glogfach	SN746708	Yes
177	25932	Glogfawr	SN746708	Yes
178	9155	Penllanfach	SN737700	Yes
179	25933	Hendrefelin	SN708693	Yes
180	25934	Cloddiau	SN722690	
181				
182	5461	Cwmystwyth	SN807749	Yes
182a	25935	West Blaencwm	SN825755	
182b	25936	Blaencwm	SN830757	
183	19983	South Cwmystwyth	SN801742	Yes
184	25937	Ffrwdd	SN551688	
185	25938	Bryn Melyn	SN583637	
186	19167	Llwynmalus	SN690679	Yes
187	25939	Swyddffynnon	SN692663	



188	8310	Esgairmwyn	SN755692	Yes
189				
190	25940	Bryn Coryn	SN761695	
191	25941	Esgairddu	SN767697	Yes
192	25942	Graig Ddu	SN776651	
193	9309	Fairchance	SN745685	Yes
194	25943	Cwmmawr	SN735672	Yes
195	25944	Bryn hope	SN725659	Yes
196	25945	Bendigaed	SN731660	Yes
197	9310	Abbey Consols	SN744663	Yes
198	19414	Bronmwyn	SN714644	Yes
199	25946	Bwlchyddwyallt	SN706637	
200	9588	Esgair Gadfach	SN667538	Yes
201	9092	Rhysgog	SN680537	Yes
202	25947	Cwm Brefi	SN695541	
203	25948	Cwm Dulas	SN699540	
204	25949	Cwm Robert	SN648533	
205	8231	Llanfair	SN627512	Yes
206	25950	Fach Ddu	SN626504	
207	9110	Brynamor	SN744508	Yes
208	9115	Rhydtalog	SN791521	Yes
209	18880	Cwm Twrch	SN684499	
210	25951	Wheal Neptune	SN386600	
211	25952	Troedyr aur	SN327454	
212	25953	Llangrannog	SN333555	
213	25954	Tanygaer	SN617480	
214	25955	Gwaithfach	SN640511	
215	8291	Pontglanrhyd	SN641514	
216	25956	Cwm y Graig Goch	SN718580	
217	25957	East Rhydtalog	SN792522	
218	25958	Dalar Wen	SN789490	
219	25959	Troed Rhiw Ruddwen	SN772475	

### 3. Conclusion

It can be said that the project aim of “assessing the current state of preservation, conservation and recording requirements (of Ceredigion’s metal mines)” was not met in full, but that an important step in that direction was taken. In subsequent years, the management of the archaeological resource of the Ceredigion metal mines has benefited from access to the project archive and the integration of information into the regional SMR.

The passage of time means that some of Protheroe-Jones’ field observations are now likely to be outdated, but without a site-by-site reassessment it cannot be said to what extent this may be true. Of the 29 sites visited by Cambria during 2002-3, it must be said that Protheroe-Jones field notes and maps were of considerable assistance and that there appeared to be few dramatic change in the condition of most of the features observed as compared to their reported condition in 1992-3. There has nevertheless been a progressive degradation of mining features through natural processes of weathering and erosion, and in some cases through human activity. Potentially the most significant contribution that the Protheroe-Jones archive may offer to the study of Ceredigion’s metal mines is a snapshot of their condition a century after most had been abandoned. In terms of the preservation of evidence by record, it is therefore an exceptionally valuable source of information.

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**METAL MINES**  
**2002-3**

**RHIF YR ADRODDIAD / REPORT NUMBER 2003/46**

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

Swydd / Position: Heritage Projects Manager

Llofnod / Signature ..... Dyddiad / Date 04/04/2003

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

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ar ran Archaeoleg Cambria, Ymddiriedolaeth Archaeolegol Dyfed Cyf.  
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Swydd / Position: Principal Archaeological Officer

Llofnod / Signature ..... Dyddiad / Date 04/04/2003

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

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