
METAL MINES PROJECT 2002 INTERIM REPORT



Commissioned by
Cadw: Welsh Historic Monuments

Written by:
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CAMBRIA ARCHAEOLOGY

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METAL MINES PROJECT 2002

INTERIM REPORT

By

Paul Sambrook

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1. INTRODUCTION.

Cambria Archaeology's Metal Mines Project (2002) was grant-aided by Cadw: Welsh Historic Monuments. This report is an interim statement of progress based on work undertaken during March 2002 and is provided in advance of a fuller report that will follow further fieldwork and analysis of data during April 2002.

The project was designed to begin to address 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.

This work 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 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. Digital mapping was not available at that time.

Following the initial Ceredigion Metal Mines survey it had been intended that scheduling recommendations to Cadw would be made on the basis of Protheroe-Jones' information. That work has not been undertaken thus far and the prime motivation for Cambria Archaeology to seek Cadw support for the Metal Mines Project (2002) was to ensure that this issue was addressed.

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.

Clearly, this is an opportune moment 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.

A fuller report, including an appraisal of the work carried out by Robert Protheroe-Jones in 1993, will follow the completion of the April 2002 fieldwork element of this project.

2. SITES TO BE VISITED

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

Thereby, a Category 1 site will 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 there are increasingly problematical divergences of opinion 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 the Metal Mines (2002) project, it was thought that only sites in Categories 1, 2 and 3a should be included, as it is likely that they will indeed be prioritised for remedial action and could be subject to groundworks within 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 is 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	Powells Llywernog	19839	3A
4	Pooles 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				

From this list of 29, 20 sites were selected for visiting during March 2002 (note that Esgairlle mine is counted here as two sites, as Old Esgairlle and Esgairlle are separate but adjoining mines - therefore there is a resultant list of 21 mines);

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

	NAME	PRN
1	Bronfloyd	5424
2	Cwm Rheidol	5472
3	Pooles 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	Powells 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 following mines will be visited during April 2002;

Table 3: List of Category 1, 2 & 3a mine sites to be visited during April 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

3. MARCH 2002 FIELDWORK

During the first three weeks of March 2002, the 21 metal mine sites listed in Table 2 above were the subject of rapid visits by two members of the staff of Cambria Archaeology.

These visits had two chief objectives;

- a) Ascertain the approximate boundary of the mine, effectively the area of archaeological interest, through a combination of field observation, historic map evidence and the notes of Robert Protheroe-Jones.
- b) 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 heritage management exercise, not an archaeological field assessment. Such detailed archaeological assessments of mine features are greatly needed, but beyond to scope of the time and resources allocated to this project.

The 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 will form part of the project archive deposited in the Regional Sites and Monuments Record at the conclusion of the project.

4. SCHEDULING RECOMMENDATIONS

Of the 21 metal mines visited during March 2002, 2 had previously been partly designated as Scheduled Ancient Monuments - namely Bronfloyd and Poole's Llywernog.

The following list indicates those mines for which it is felt consideration should now be given for Scheduled Ancient Monument status, on the basis of the field visits already carried out. In the case of Bronfloyd, there is a recommendation for the extension of the present scheduled area. The details of the scheduling recommendations are found within the site reports in Section 5 of this report.

Bronfloyd	PRN 5424	Whole site
Cwmrheidol	PRN 5472	Whole site
Lefel Fawr	PRN 9153	Level entrance PRN 44488
Hafan	PRN 9166	Whole site
Bog	PRN 9169	Part of site including; wheelpit PRN 44489; flat rod system PRN 44490; winding house PRN 44491
Temple	PRN 9342	Whole site
Wemyss	PRN 23230	Part of site including ore processing area; wheelpit
Gwaith Goch	PRN 25891 building;	Part of site including; ore bin (PRN 44492); mine crusher house & wheelpit; Leat
Ystumtuen	PRN 25900	Whole site
Graig Goch	PRN 25917	Part of site including ore processing area

It is probable that further scheduling recommendations will follow once the remaining 9 mines to be considered are visited during April 2002. Some re-evaluation of the 21 mine sites already visited may also be made in the light of the next phase of fieldwork, therefore amendments to the above list may be made (although this will potentially involve additions to the list, not removals).

5. SITE REPORTS

5.1 BRONFLOYD PRN 5424

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 the site being designated as a Scheduled Ancient Monument by Cadw.

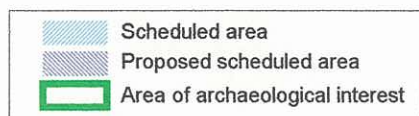
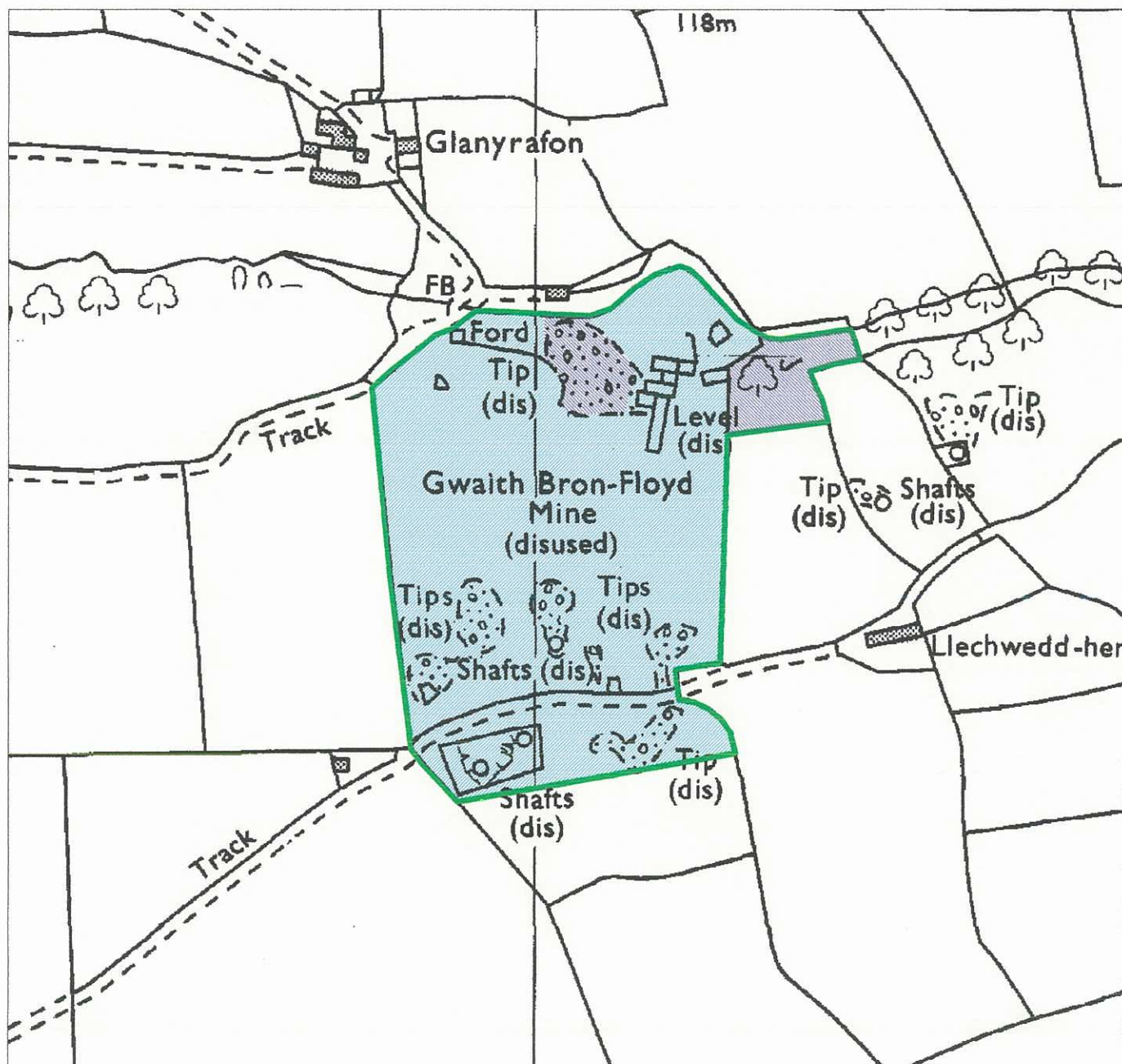
The boundary of the mine, as defined on the accompanying map, is based on the scheduled area already defined by Cadw, extended to include some adjacent land which can be seen to be integral to the mine complex on late 19th century OS maps and which include surviving remains.

Bronfloyd is set in a wider landscape that is influenced by mining activity. Two smaller mines are found in adjacent land parcels; Llechwedd Hen to the east and Cefnllwyd to the south-west. Other related 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.

Although already protected by SAM status, it is felt that the SAM area should be extended to include the spoil tips at the northern edge of the mine and also to the small strip of land to the east on the banks of the Nant Silo, where building remains and the now blocked Bushell's level are located.

The conservation of standing structures is a major issue facing this mine site. Well-preserved structures such as the ore bins are showing signs of decay.

Metal Mines Project 2001-02
Map 1: Bronfloyd Mine PRN 5424
Scale 1:4000



5.2 CWMRHEIDOL PRN 5472

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.

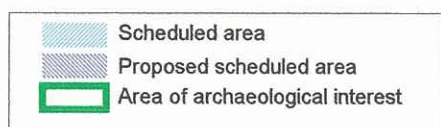
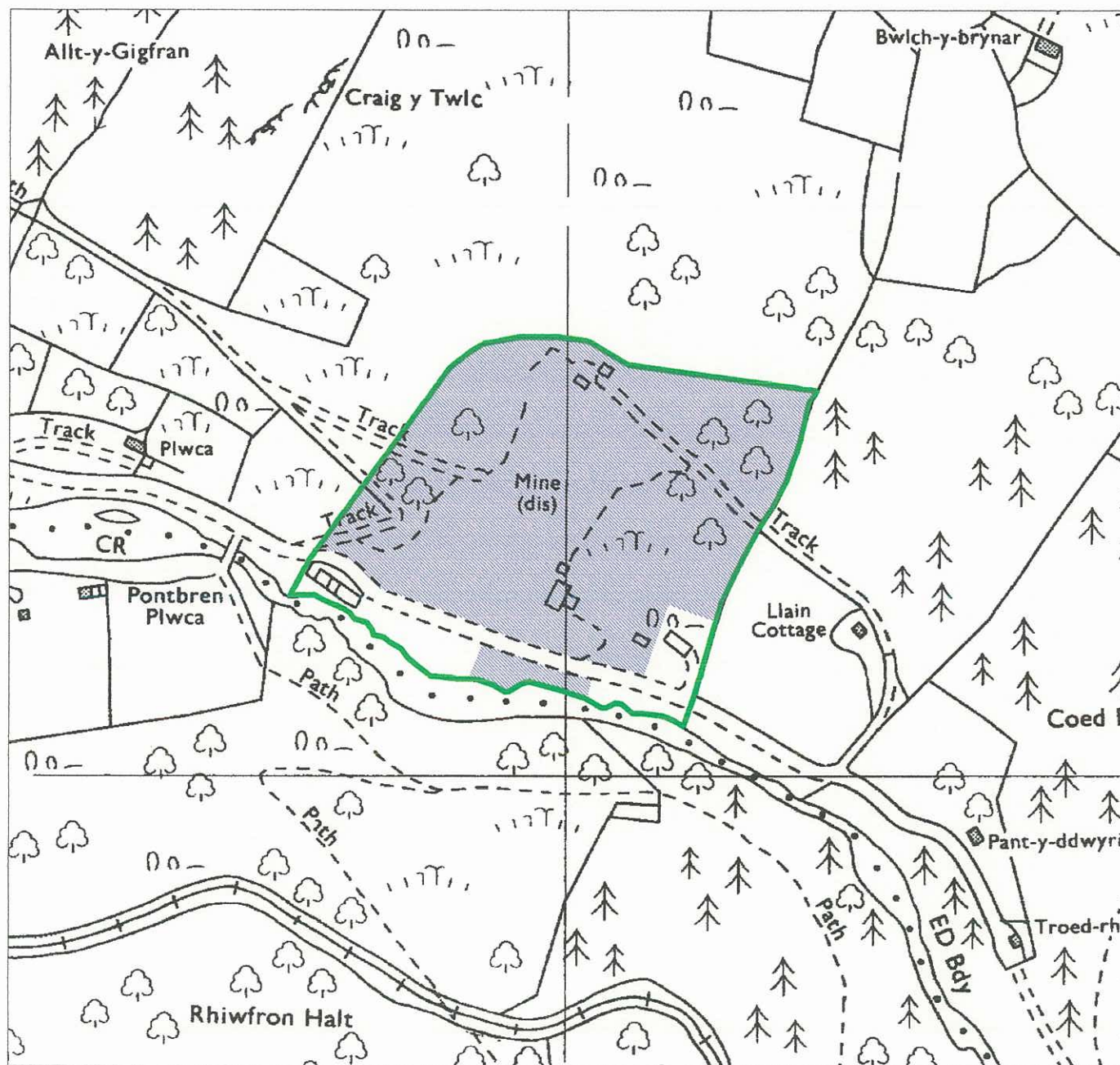
The mine remains an impressive landscape feature, particularly due to the reddish hue of some spoil tips derived from the processing of ochre mined at the nearby Tynyfron site.

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.

It is recommended that the shaded area on the accompanying map be considered for scheduling on the basis of the range and condition of the structures and mining features that survive, as well as their high landscape value.

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 2001-02
Map 2: Cwm Rheidiol Mine PRN 5472
Scale 1:5000



5.3 POOLE'S LYWERNOG PRN 5604

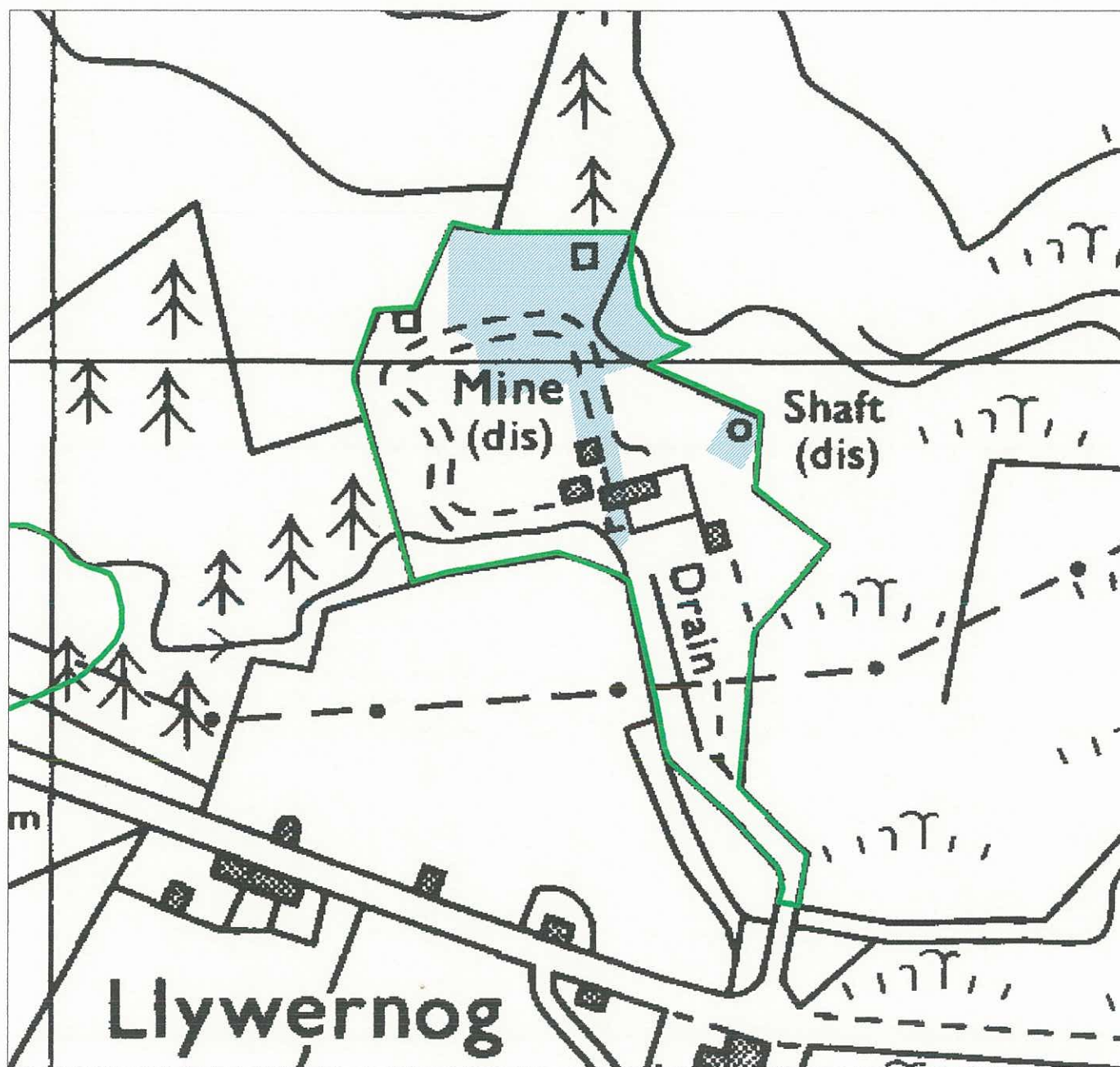
This 19th century mine complex is now home to the Llywernog Silver Lead Mine Museum. Several of the mine buildings and other structures enjoy listed-status. These have been restored and are in use as a part of the museum complex, which includes access to underground workings.




Two parts of the mine complex currently have SAM status and a number of the buildings are listed. There are no further recommendations for statutory protection.

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

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.

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.



-  Scheduled area
-  Proposed scheduled area
-  Area of archaeological interest

5.4 GOGINAN PRN 8338

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 south-western portion of the mine site unrecognisable as a former industrial landscape.

Significant historic and archaeological interest does survive at Goginan however, particularly to the north-east 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.

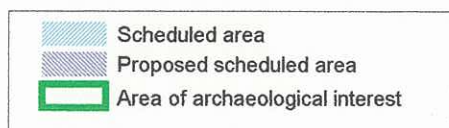
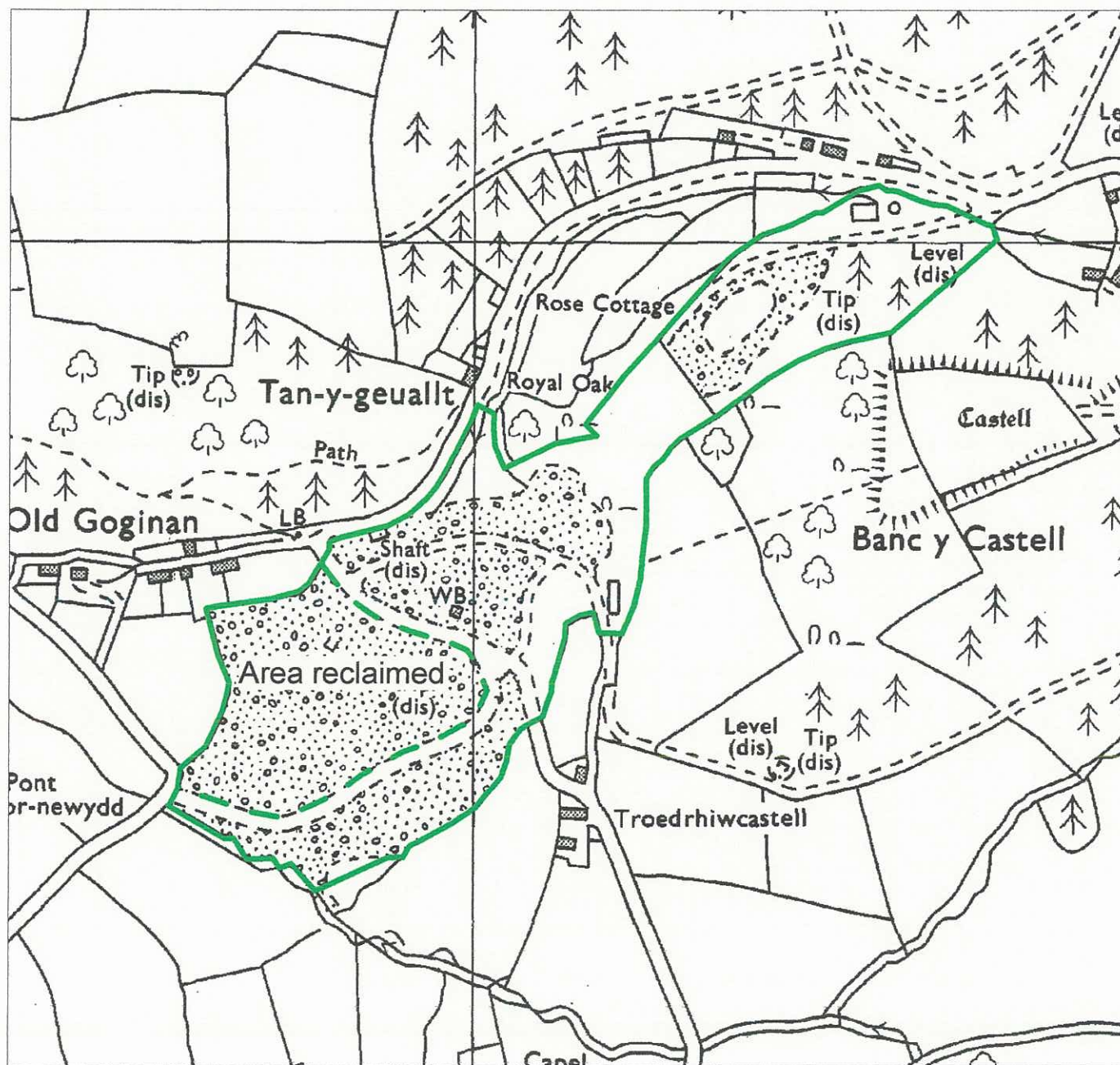
Despite the loss of mining features, the Goginan site is perceptibly part of a wider mining landscape, with the cottages, chapels and other buildings of the mining village still possessing a distinctive industrial atmosphere.

In terms of non-mining archaeology, it should be noted that the Castell hillfort is situated immediately east of the mine area.

There are no recommendations for scheduling or listing at this site. However it is thought that there is significant scope for the presentation and interpretation of the former mining community here.

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

Metal Mines Project 2001-02
 Map 4: Goginan Mine PRN 8338
 Scale 1:5000



5.5 LEFEL FAWR PRN 9153

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.

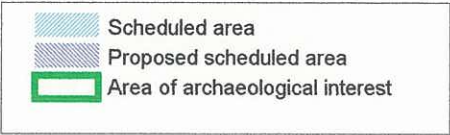
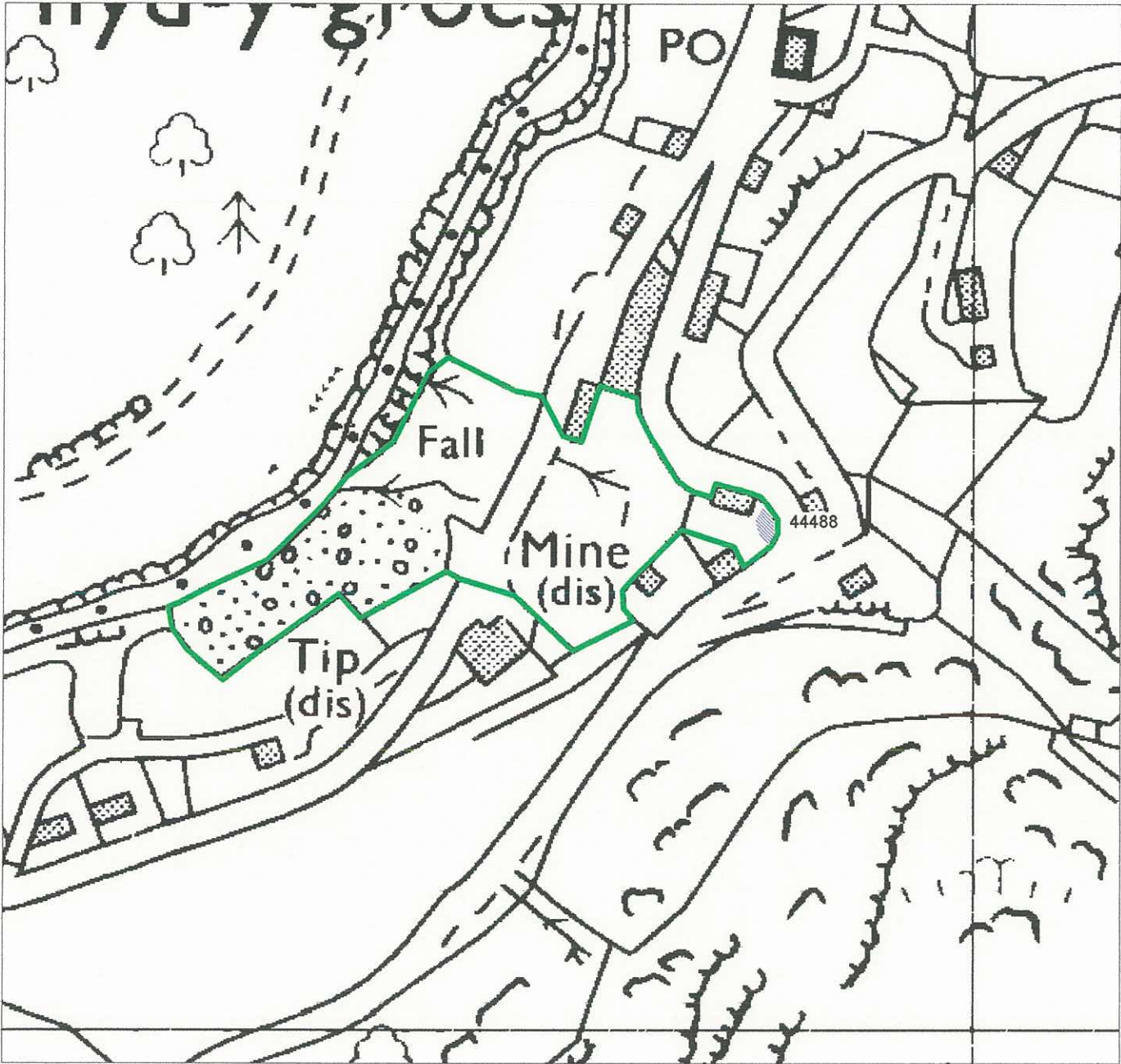
The mine Counting House and smithy building also survive near the level entrance, though now converted into a dwelling and garage.

Despite the reduction of surface evidence, Lefel Fawr does sit in the unmistakably industrial village of Pontrhydygroes. 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.

This combination of features makes Lefel Fawr and Pontrhydygroes suitable locations for the presentation and interpretation of mining heritage.

Consideration should be given to scheduling the Lefel Fawr entrance (PRN 44488) due to its great significance to the mining industry in the district.

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



5.6 HENFWLCH PRN 9164

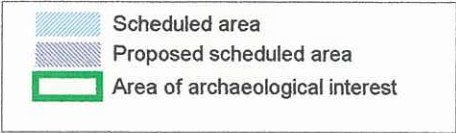
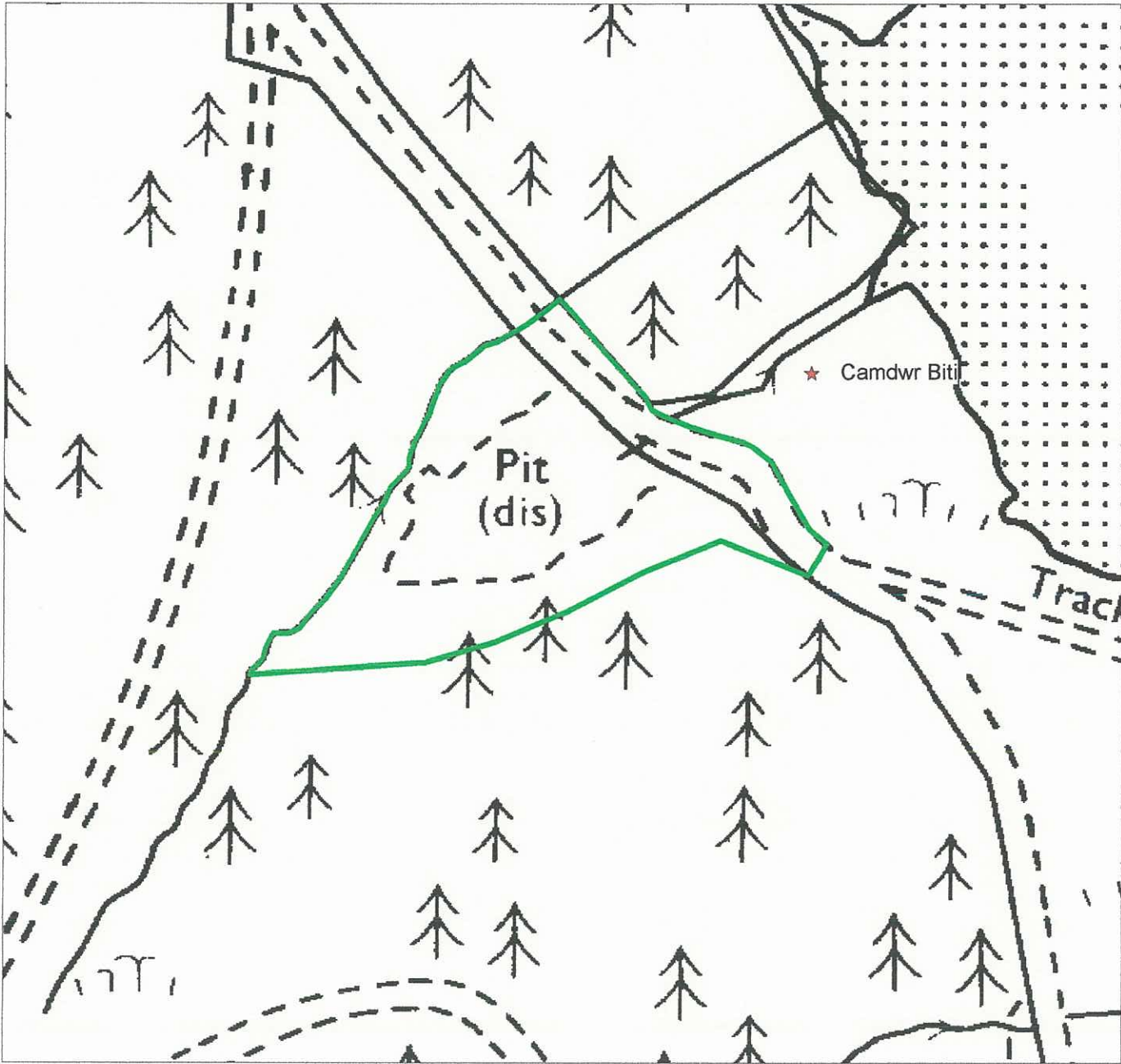
The Henfwlch Mine is a 19th century complex of which the main surviving elements include some open shafts, levels, building fragments and extensive spoil tips. The dressing floor area appears undisturbed and may have buried archaeological features of some significance relating to ore processing. The 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 north-east 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.

There are no scheduling recommendations for this mine.

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



5.7 HAFAN PRN 9166

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 which 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.

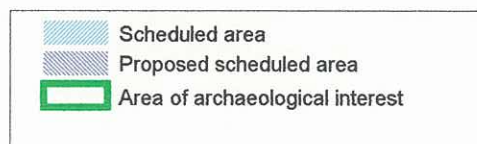
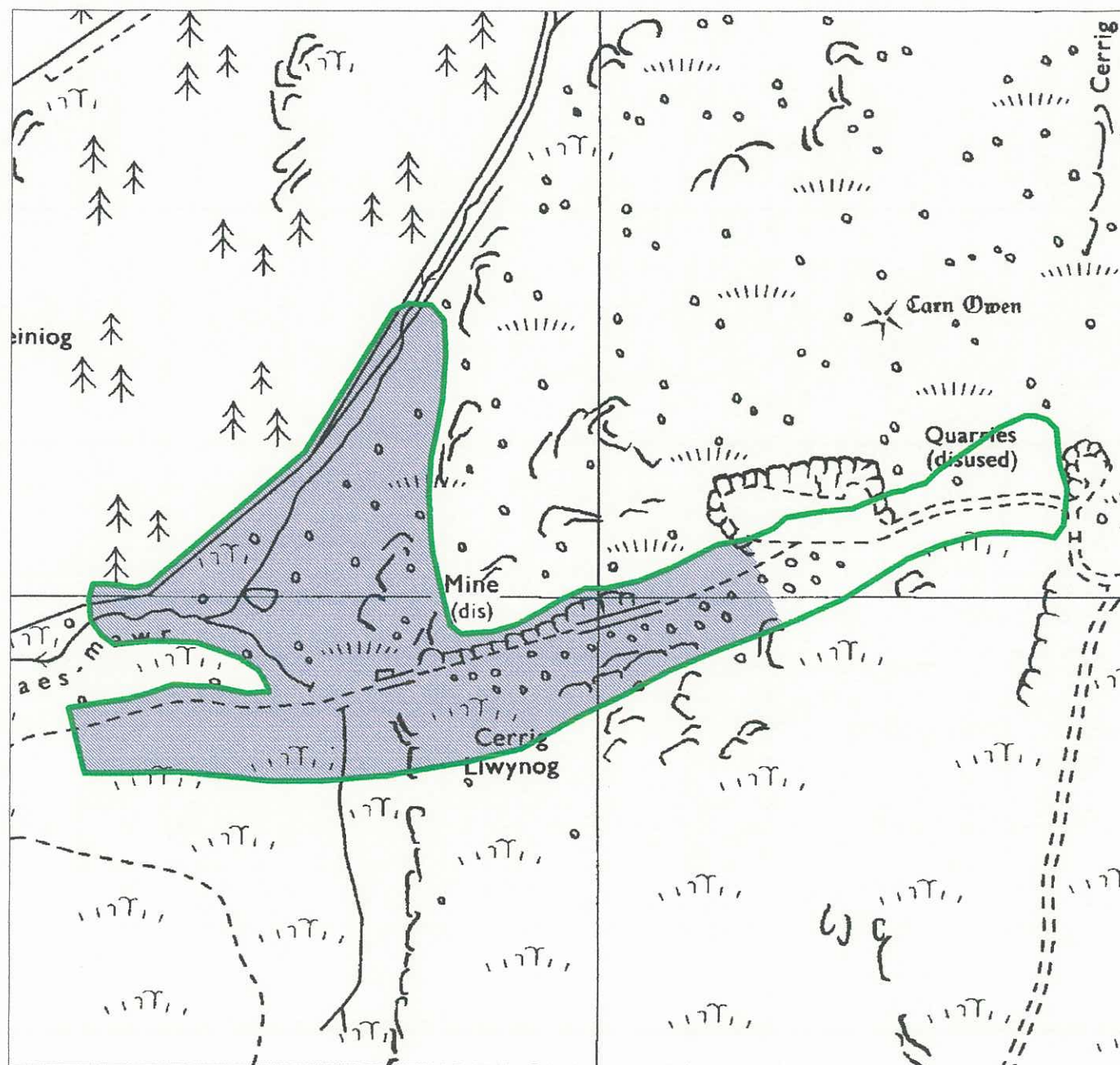
In terms of non-mining archaeology, a disused sheepfold marked on the 2nd edition 1:10560 OS map at the western end of the mine area appears to be part of a Deserted Rural Settlement complex of unknown date which appears to include a possible house site, several enclosures or field parcels and a sheepwash, 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.

It is recommended that the shaded area on the accompanying map is considered for scheduling. The area includes all evidence of mining activity as well as the dramatic inclined quarry tramway that cuts through the site. The Deserted Rural Settlement site falls within this area.

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

Metal Mines Project 2001-02
Map 7: Hafan Mine PRN 9166
Scale 1:5000



5.8 BOG PRN 9169

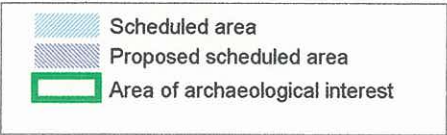
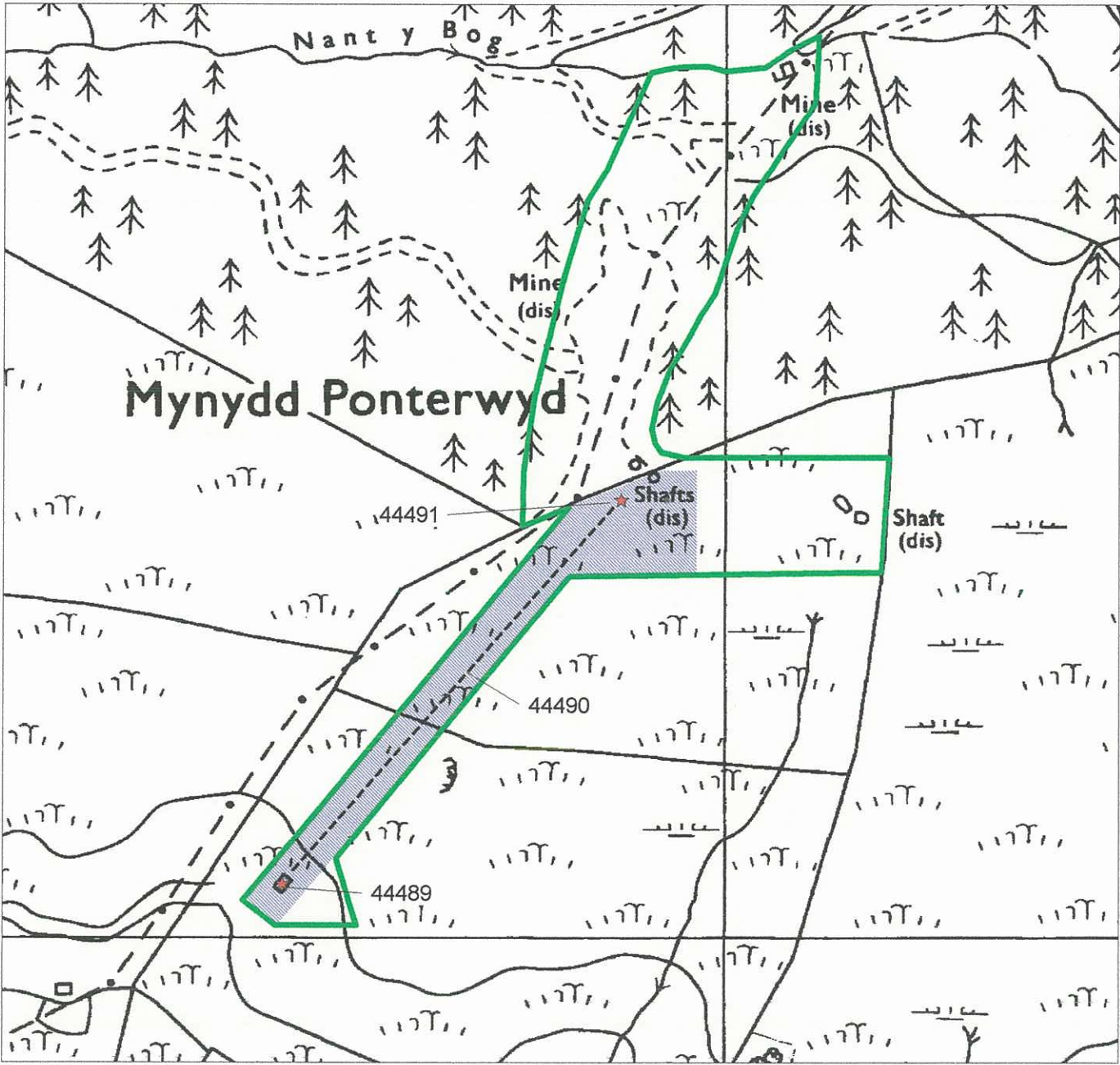
The Bog Mine is part of a larger mine sett incorporating the Graignant and Llywernog mines. It operated from 1830 - 1883. The mine site is now largely within a forest parcel, with some key features on open pasture to the south.

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.

The southern part of the complex, including the Winding Engine House (PRN 44491), flat rod course (PRN 44490) and associated wheelpit (PRN 44489) should be considered for scheduling and are shaded on the accompanying map. This recommendation might be extended to include the core of the mine site, including the spoil tips, dressing floor area and associated tailings, by virtue of their relatively undisturbed state and archaeological potential.

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.



5.9 ESGAIRLLE PRN 9173

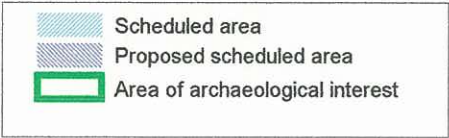
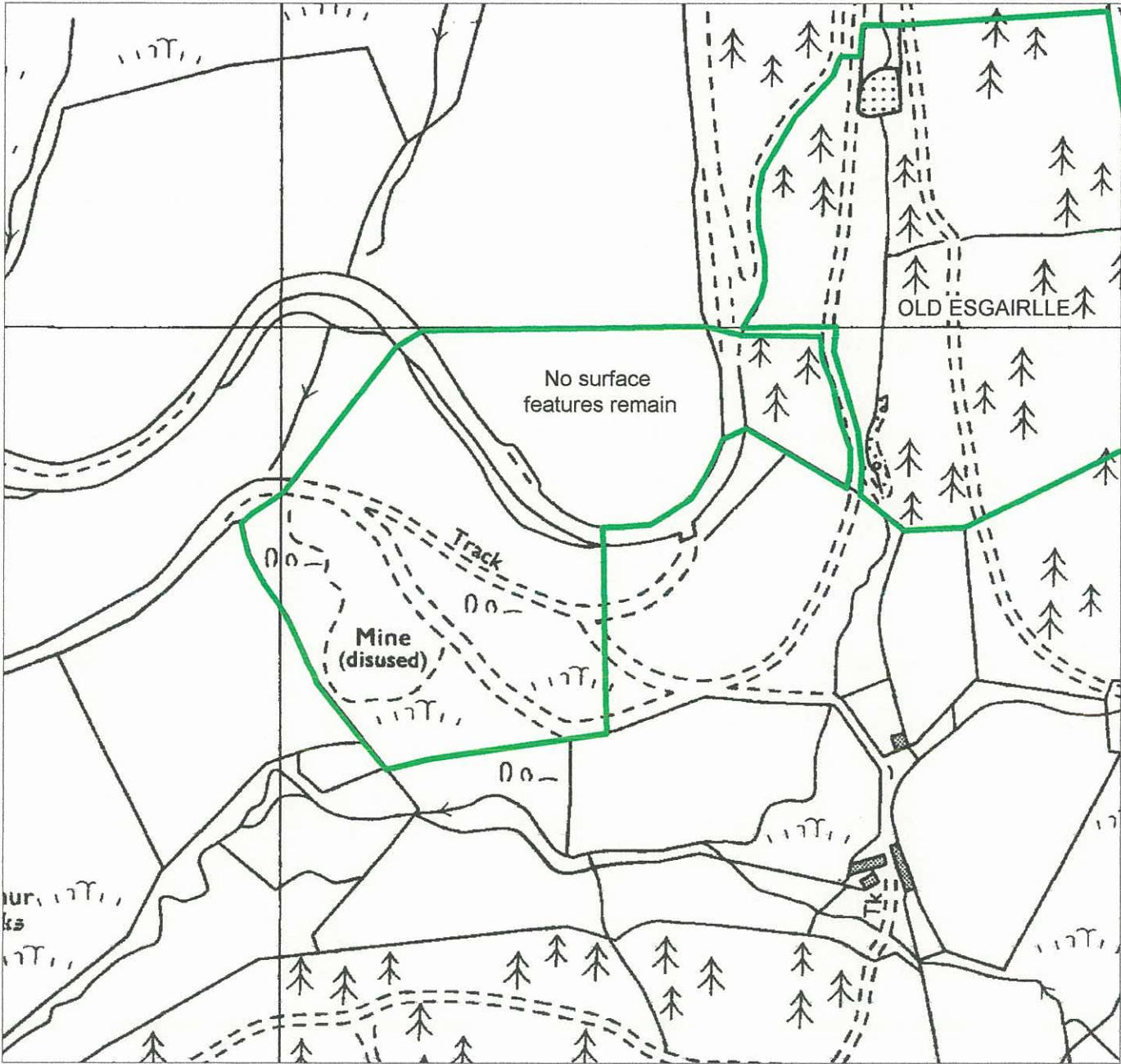
Esgairlle mine was largely a 19th century working which has had most of its surface features removed during the late 20th century. There are now no standing structures at the mine site. Several shafts, open and blocked, a number of run-in levels and areas of disturbed spoil tips survive to mark the location 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 north-east, 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.

No scheduling recommendations are proposed for Esgairlle mine.



5.10 ABBEY CONSOLS PRN 9310

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.

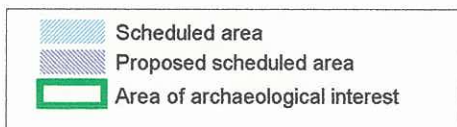
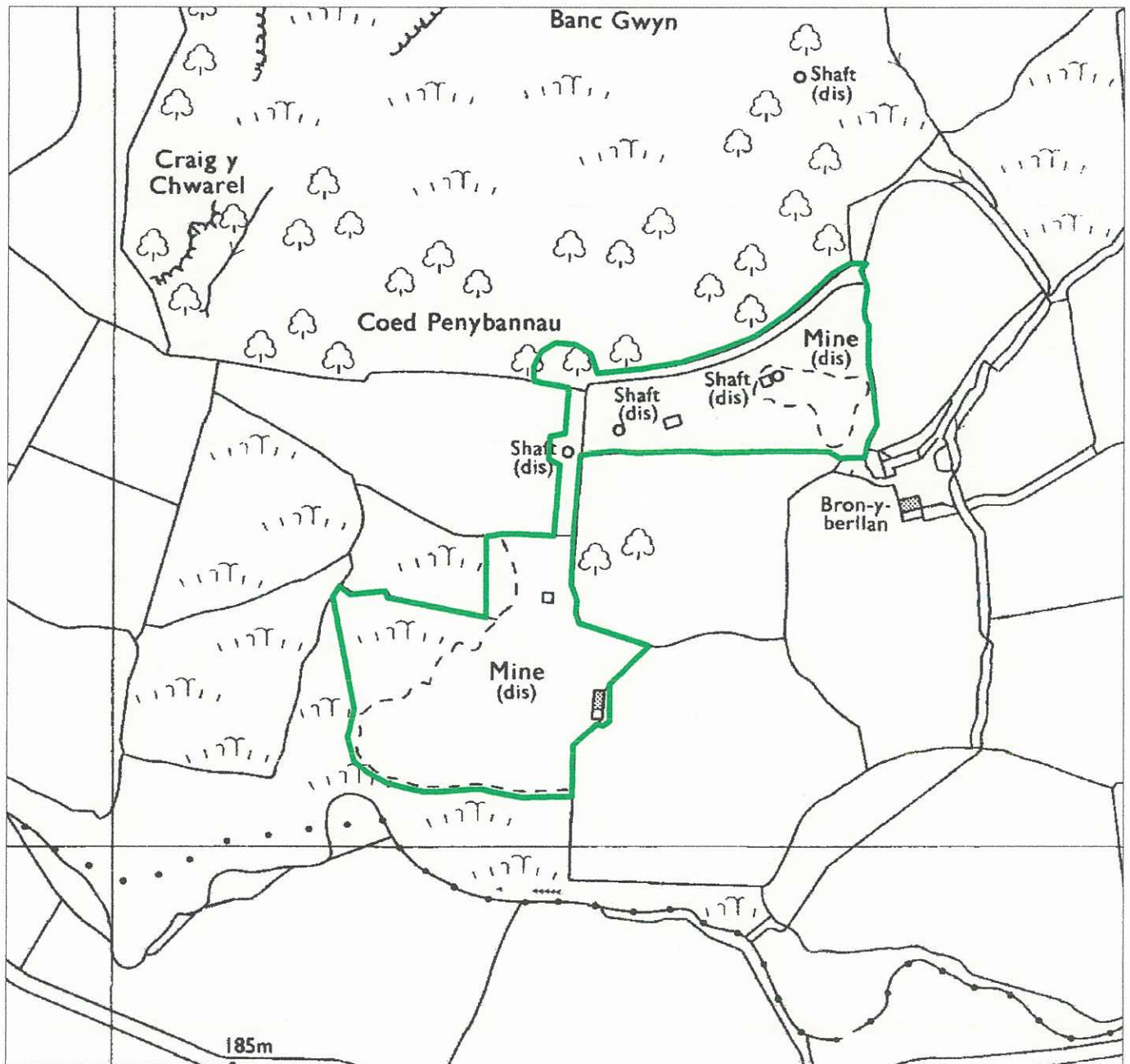
Although there is no non-mining archaeology within the mine boundary, the nearby ruined farmstead of Bronyberllan is an impressive feature in the local landscape. Abbey Consols mine is also situated between the major historical monuments of Strata Florida Abbey and Penybannau Hillfort.

Although there is no scheduling recommendation proposed for the mine site, it is worth noting that the proximity of Abbey Consols to these important heritage sites, and its own prominent landscape profile, suggest this to be a mine site that is exceptionally well suited to interpretation.

Metal Mines Project 2001-02

Map 10: Abbey Consols Mine PRN 9310

Scale 1:5000



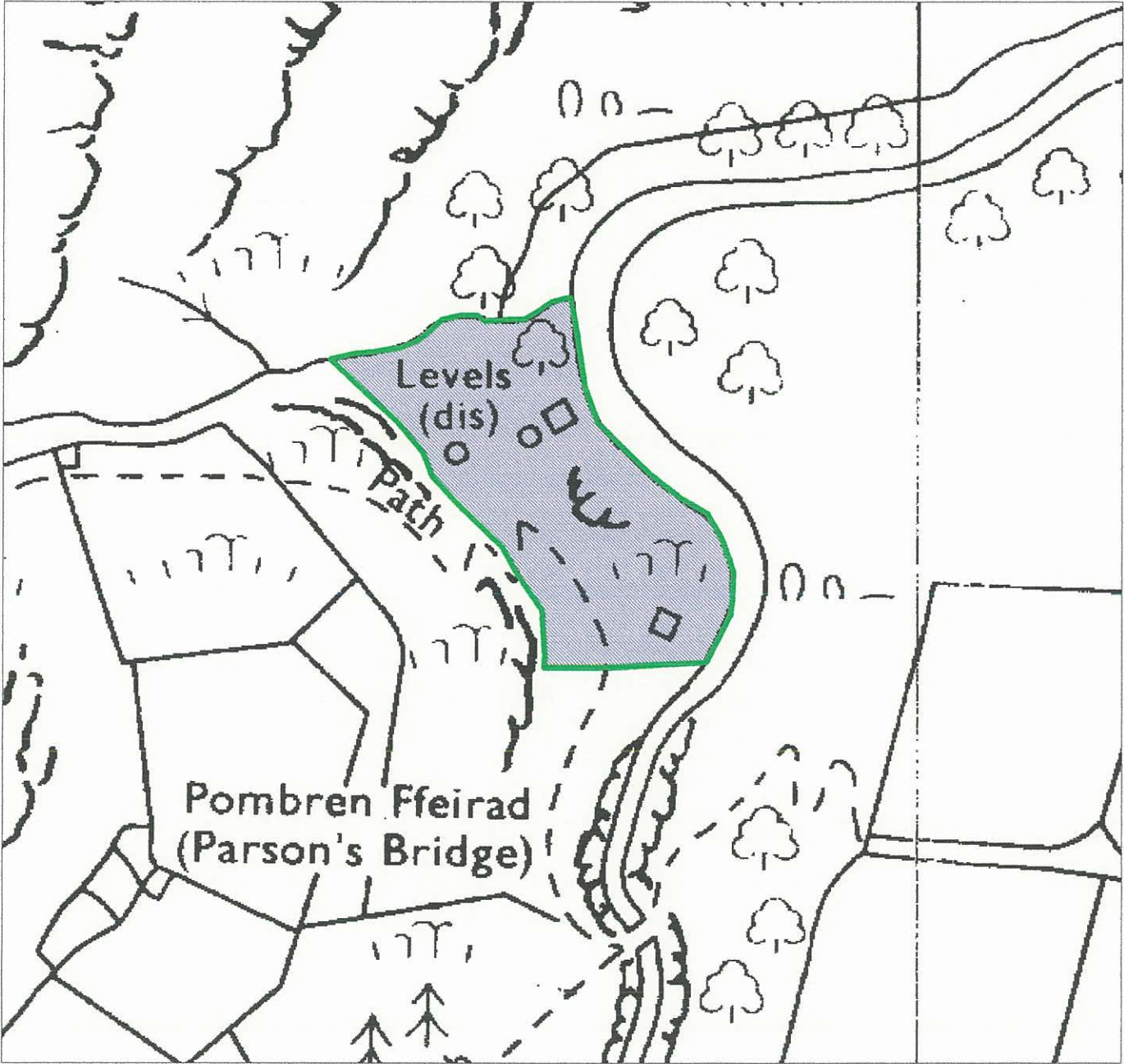
5.11 TEMPLE PRN 9342

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.

It is recommended that the area shown on the accompanying map be considered for scheduling.



- Scheduled area
- Proposed scheduled area
- Area of archaeological interest

5.12 POWELL'S LLYWERNOG PRN 19839

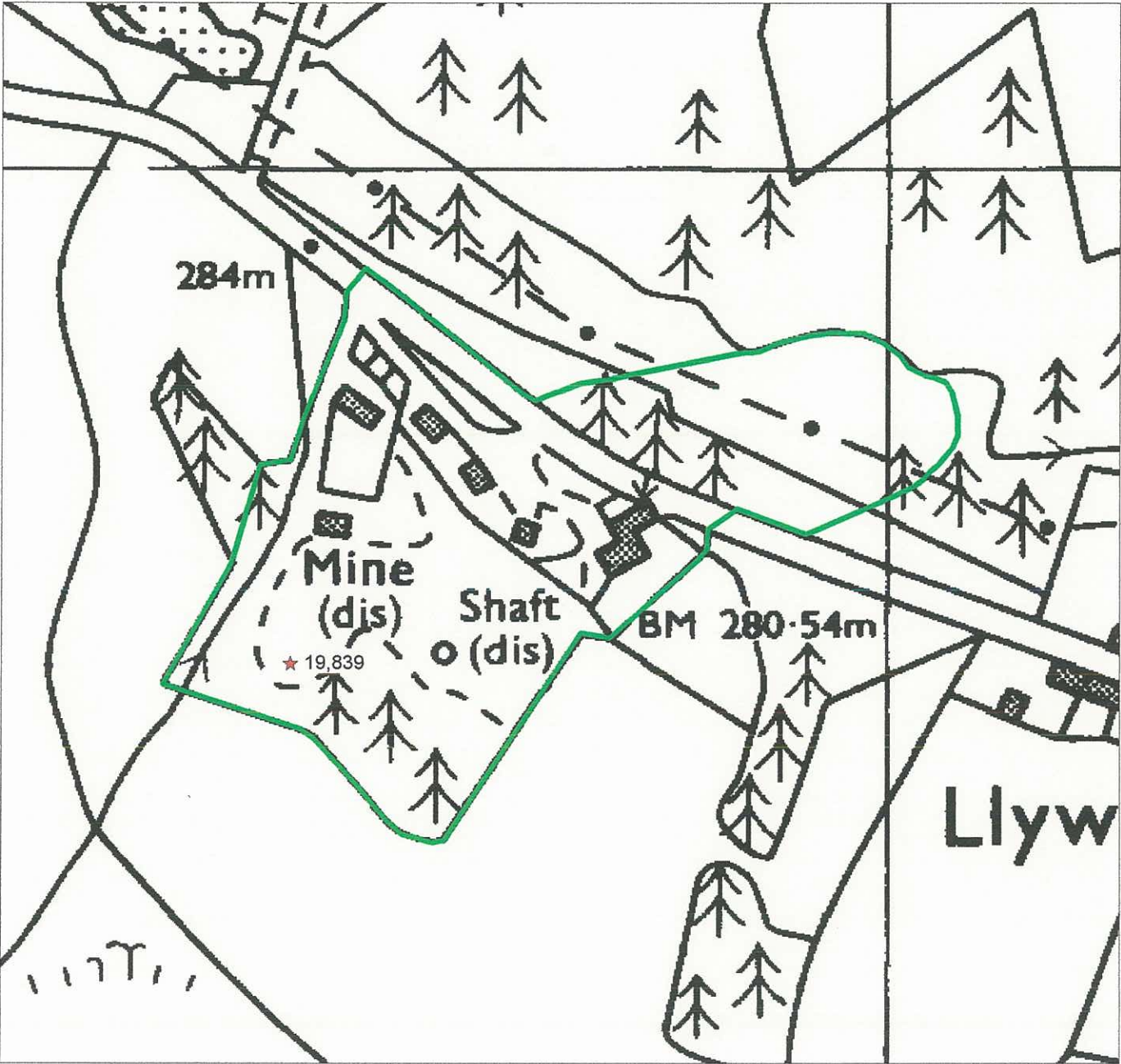
Access was not possible at this site in 2002 and only a general impression can be gained on the basis of previous information. It would appear that Powell's mine has amongst the best preserved building assemblages of the mines in the district.

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.

Unfortunately, it appears that there has been an historic reluctance on the part of the private owners of the site to allow an archaeological assessment to be undertaken therefore no management recommendations can be put forward at this stage.

The potentially high value of the surviving buildings at Powell's mine makes it desirable for common ground to be found with the site owners to increase the likelihood of continued survival of mining related features here in future.



- Scheduled area
- Proposed scheduled area
- Area of archaeological interest

5.13 WEMYSS PRN 23230

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; 521 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.

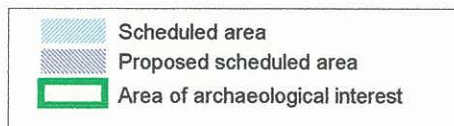
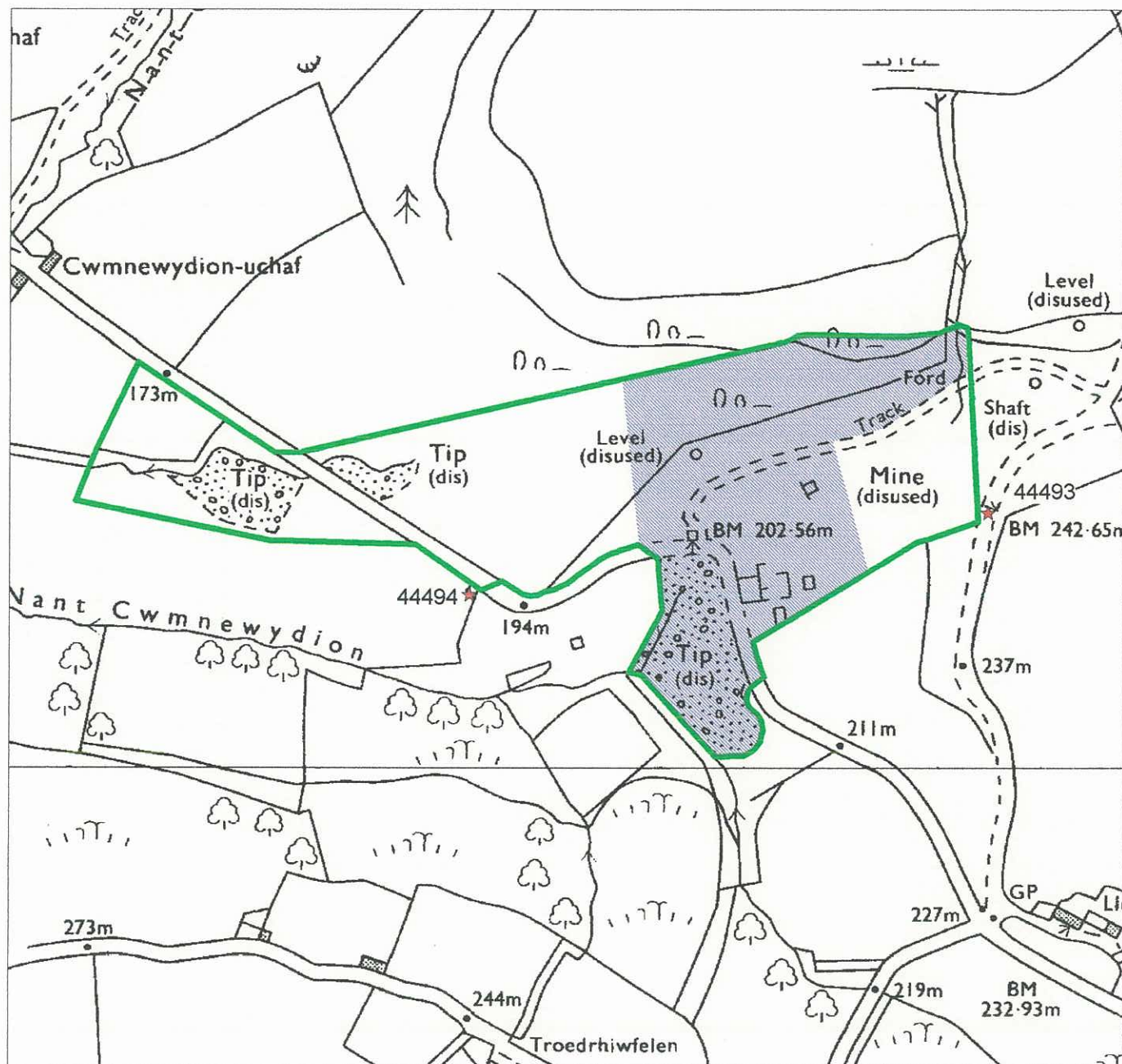
The wider landscape displays many relics of the mining heritage of the district, and this includes a number of relatively well preserved leat courses that served the local mines, including Wemyss.

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 (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.

The Wemyss complex is considered to be of great importance for its historical interest, its high landscape value and the varied and relatively well-preserved assemblage of mining features and structures. The core of the mine site is therefore recommended for scheduling (see accompanying map).

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 future preservation is treated as a matter of importance in the context of preserving the character of this important mining landscape.

Metal Mines Project 2001-02
 Map 13: Wemyss Mine PRN 23230
 Scale 1:5000



5.14 OLD ESGAIRLLE PRN 25868

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

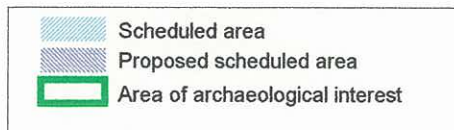
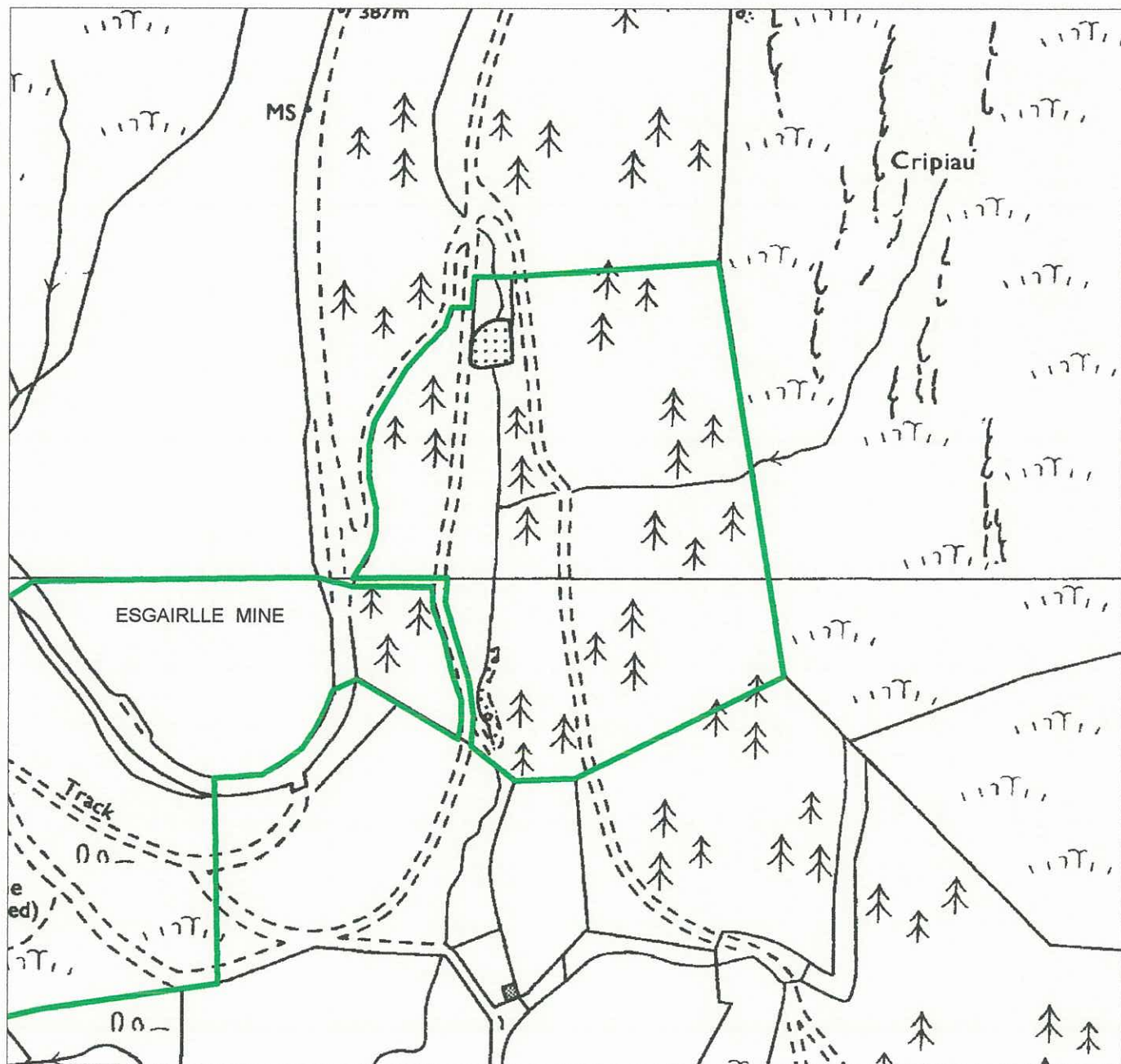
The mine site occupies the steep west facing slope of the upper Castell valley and a section of the valley floor. Evidence of mining activity at the site includes a number of old levels and shafts, some of which remain open, and their associated spoil tips. On the valley bottom are the spoil tips of 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.

There are at present no scheduling recommendations proposed for the Old Esgairlle mine site.

Metal Mines Project 2001-02
Map 14: Old Esgairlle Mine PRN 25868
Scale 1:5000



5.15 RHIWRHIGOS (RHEIDOL UNITED) PRN 25888

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 south-west, 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 north-west, 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.

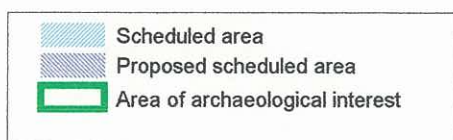
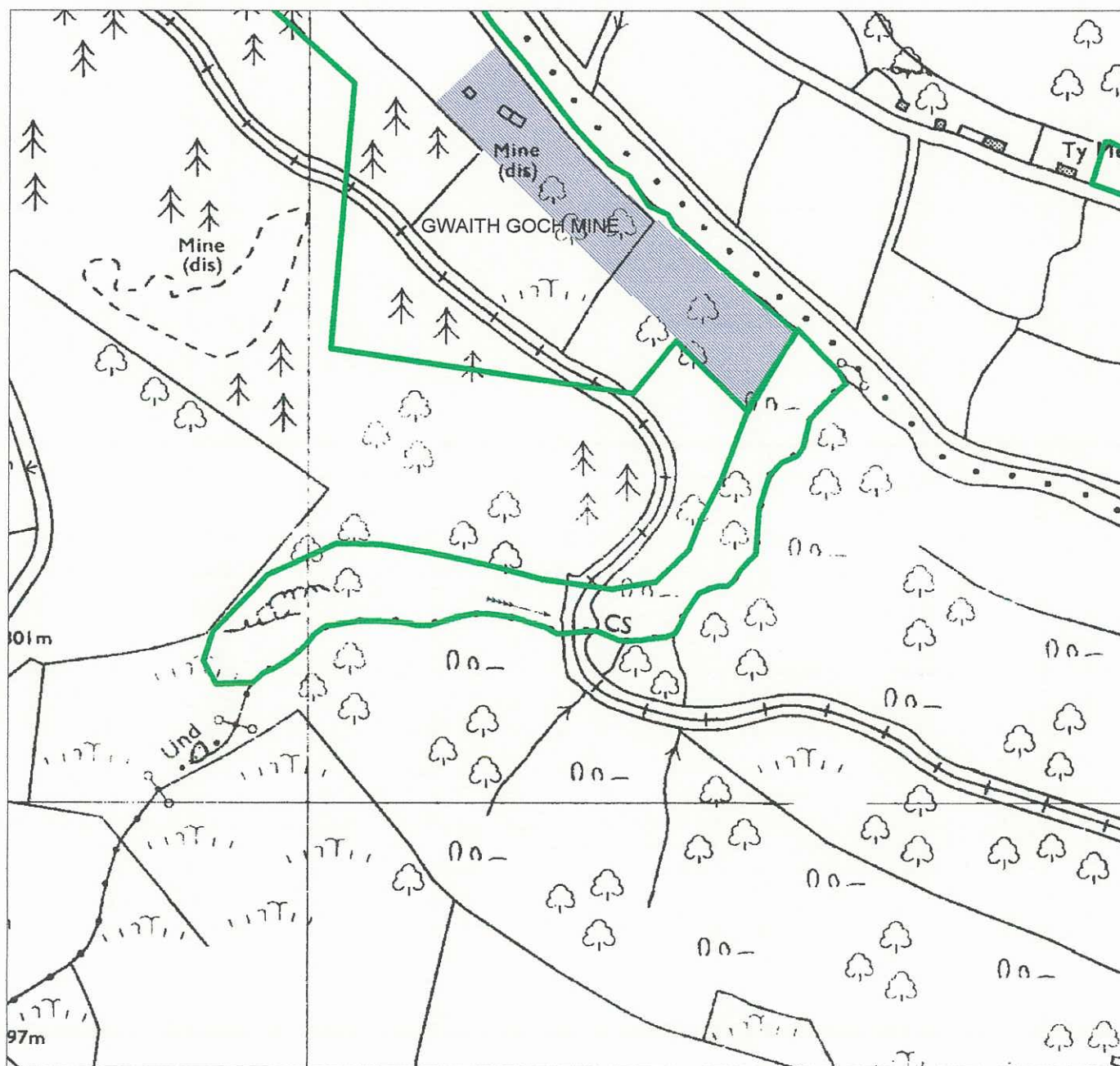
The line of the working Vale of Rheidol railway bisects the mine area. This railway once served the upper part of the mine, and a loading chute was built alongside the track.

There are no scheduling proposals for the Rhiwrhigos mine at present, although the potential of early mining features surviving here make this an important mine which is need of fuller archaeological assessment.

Metal Mines Project 2001-02

Map 15: Rheidol United (Rhiwrhigos) Mine PRN 25888

Scale 1:5000



5.16 GWAITH GOCH (RHEIDOL UNITED) PRN 25891

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 south-western 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.

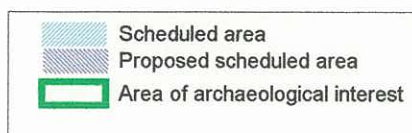
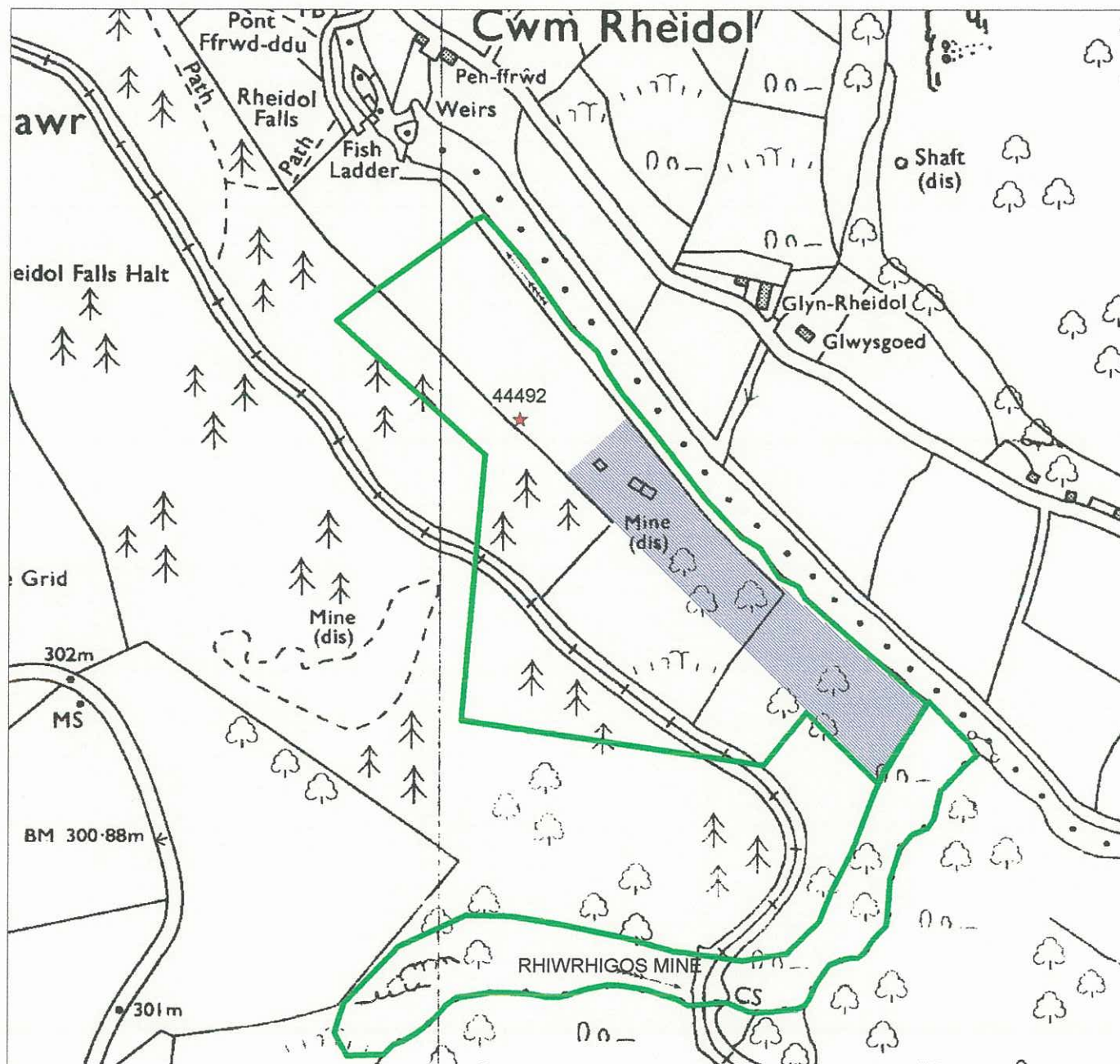
The most impressive surviving structure is however a pair of well-preserved ore bins (PRN 44492) at the edge of the reclaimed area. These are recommended for scheduling, and consideration may be given to extending the scheduling to include the other surviving buildings to the south-east of this point and also a length of well preserved leat course which runs away to the south-east and outside the mine boundary as defined by Robert-Protheroe Jones (see accompanying map).

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.

Metal Mines Project 2001-02

Map 16: Rheidol United (Gwaith Goch) Mine PRN 25891

Scale 1:5000



5.17 CAEGYNON PRN 25897

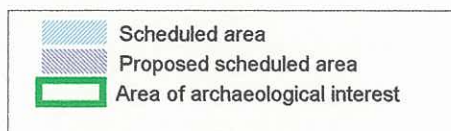
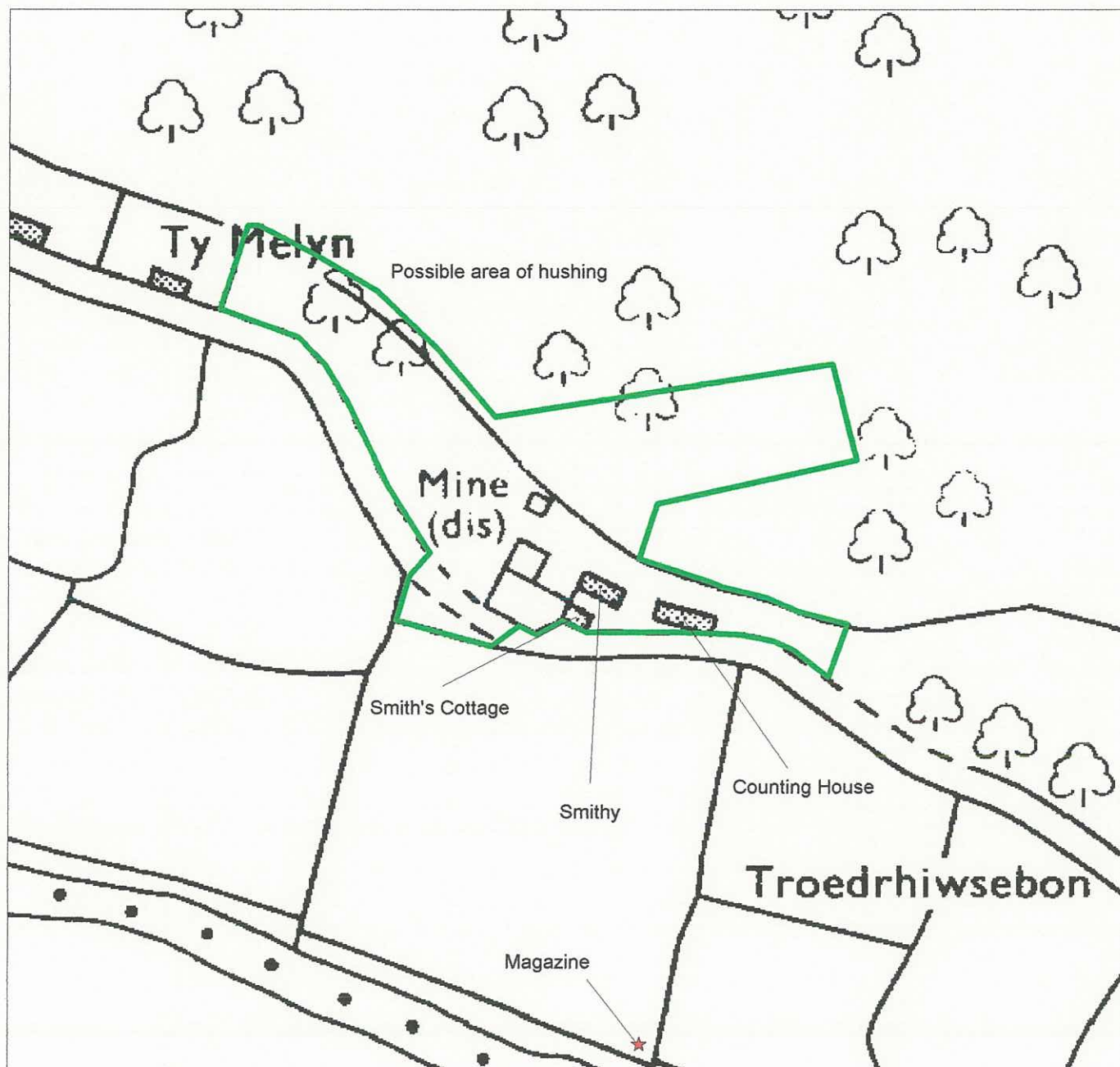
The Caegynon Mine probably dates in origin to the early 18th century, but the majority of the features now visible date to the 19th century and the latter period of activity at the site. These include a significant surviving group of mine buildings and other structures associated with the ore preparation 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 north-east. 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.

There are no scheduling recommendations currently proposed for the Caegynon mine, but the consolidation and retention of the surviving features and structures here is an issue for future discussion.

Metal Mines Project 2001-02
Map 17: Caegynon Mine PRN 25897
Scale 1:2500



5.18 TYNYFRON PRN 25898

The Tynyfron 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 18th 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.

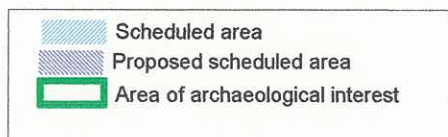
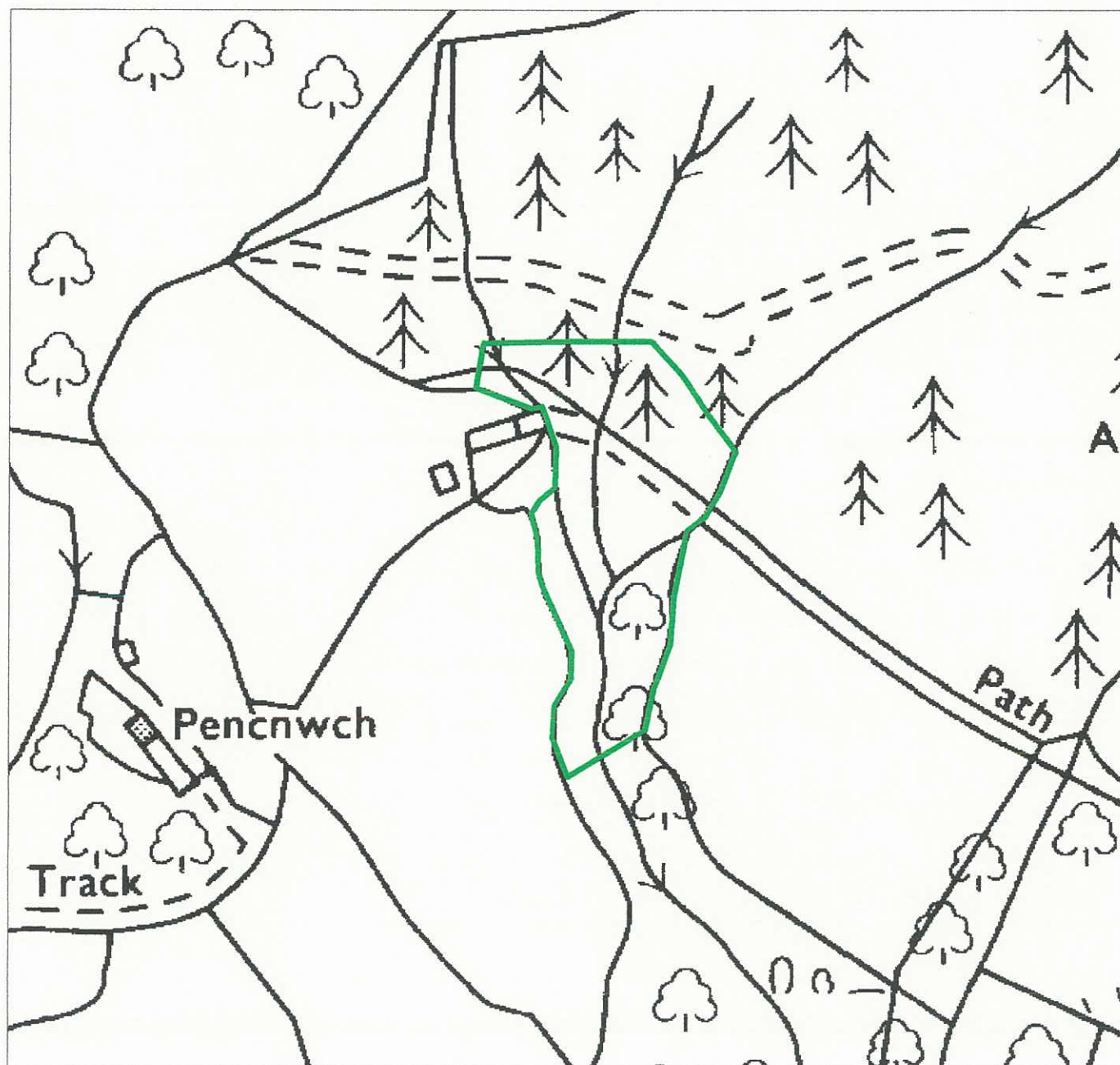
A Bronze Age radiocarbon date was obtained from spoil tips close to Tynyfron house in 1996¹. These tips are adjacent to the 18th century mine pits and appear to be directly derived from them. The significance of the Bronze Age date is therefore unknown.

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.

There are no scheduling proposals for the Tynyfron workings.

¹ Timberlake S, 1996, “Ty’n y Fron Mine, Cwm Rheidol” in *Archaeology in Wales Vol. 36, 1996*.

Metal Mines Project 2001-02
Map 18: Tynyfron Mine PRN 25898
Scale 1:2500



5.19 YSTUMTUEEN PRN 25900

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

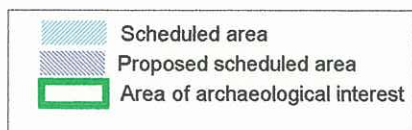
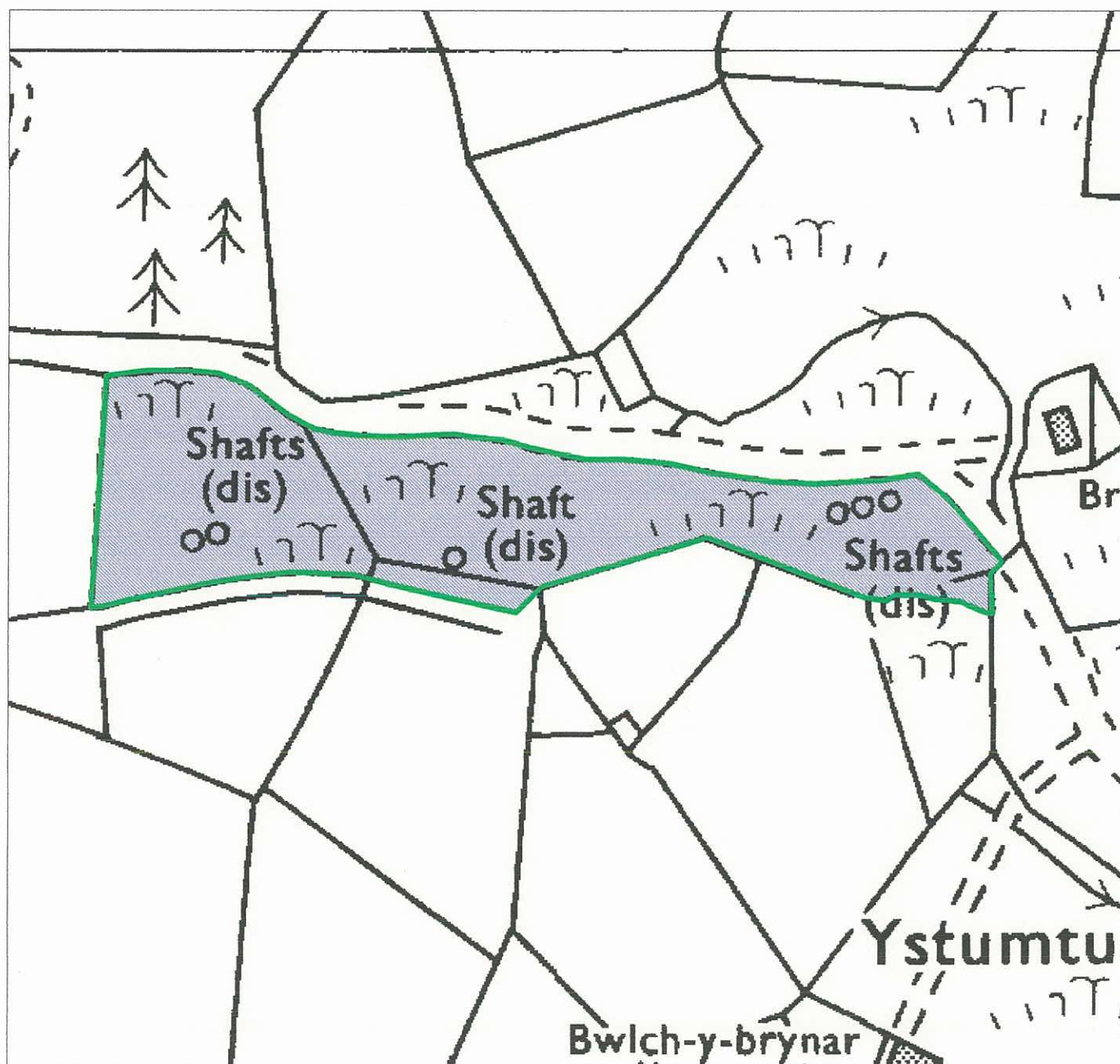
During the mid-19th century, Ystumtuen was worked via the Alderson level from the nearby Cwm Rheidol mine, as a result there was apparently little surface disturbance of earlier features at the Ystumtuen site. Some modern water diversion schemes have been undertaken to carry water away from the mine, 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.

The rare preservation of the surface features of a pre-19th century mine site makes the Ystumtuen mine a particularly valuable site. It is therefore recommended that the site be considered for scheduling (see accompanying map).



5.20 PENRHIW PRN 25901

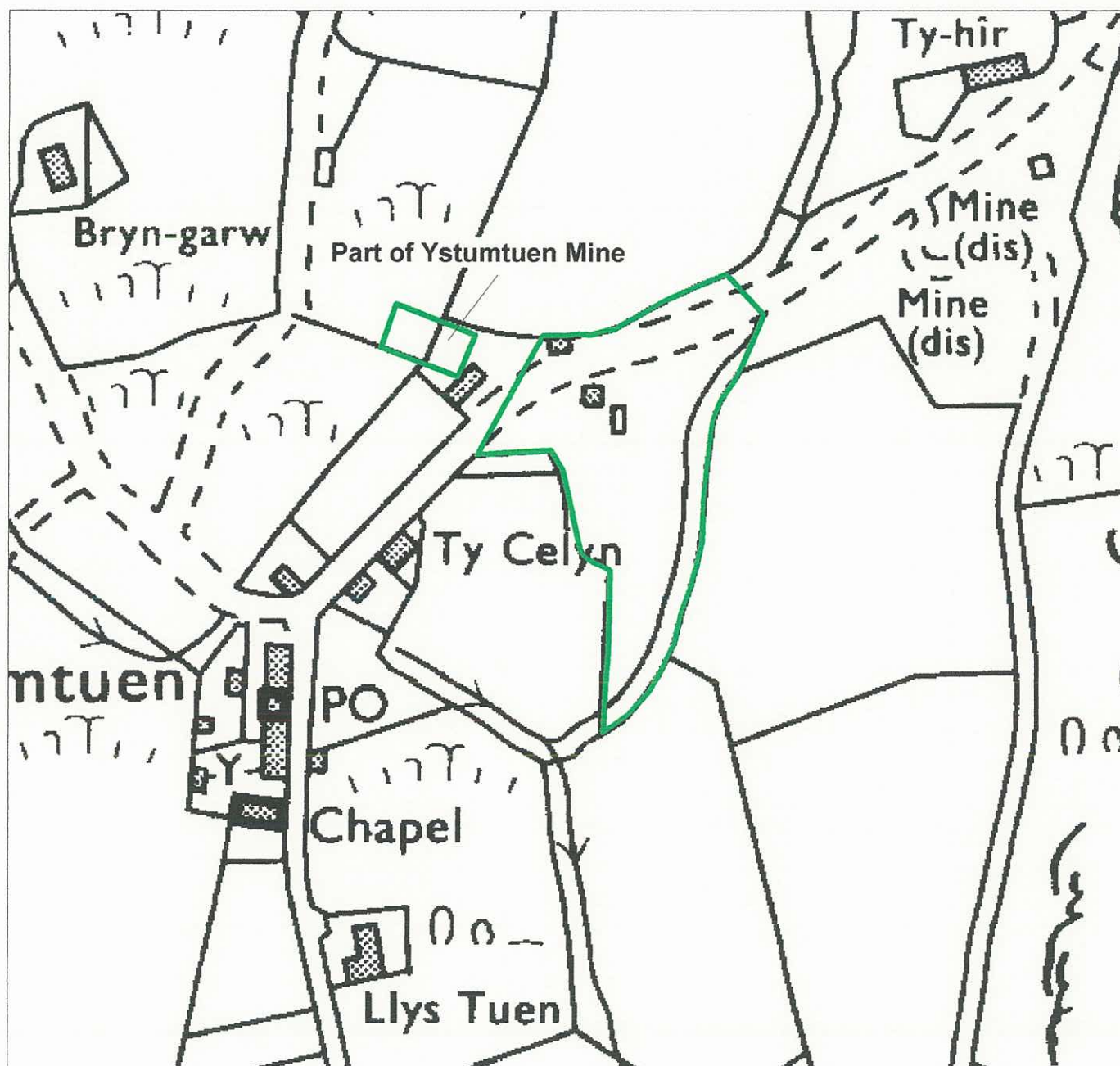
The Penrhiw Mine is located within the area of the village of Ystumtuen and was mined periodically in conjunction with the neighbouring Ystumtuen, Bwlchgwyn and Llwynteifi workings.




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.

There are no scheduling recommendations for the Penrhiw mine.



-  Scheduled area
-  Proposed scheduled area
-  Area of archaeological interest

5.21 GRAIG GOCH PRN 25917

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.

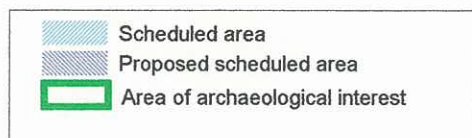
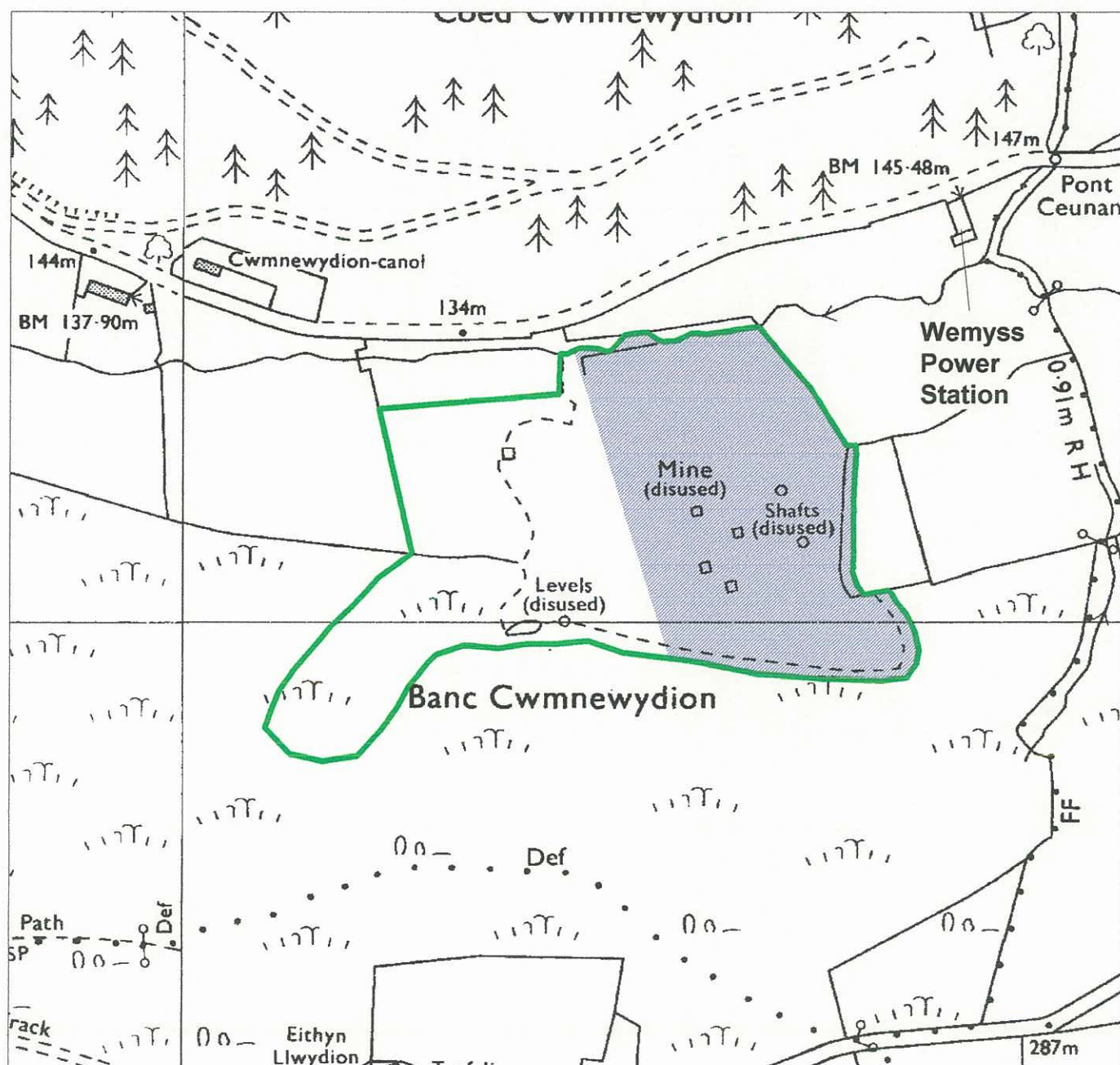
Graig Goch is a significant component in the local landscape and is within sight of the Wemyss and Frongoch mines to the east. The large power generation station of the Wemyss/ Frongoch mine is to be seen just a few hundred metres north-east of Graig Goch. These features all combine to make mining one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

Despite the recent disturbance of part of the complex, Gwaith Goch still displays features related to each stage of mining and ore preparation and in that sense it remains a coherent site. Given its high landscape value also, it is a site that offers some visitor and interpretative potential. However, there are no scheduling recommendations for this site at present.

Metal Mines Project 2001-02

Map 21: Graig Goch Mine PRN 25917

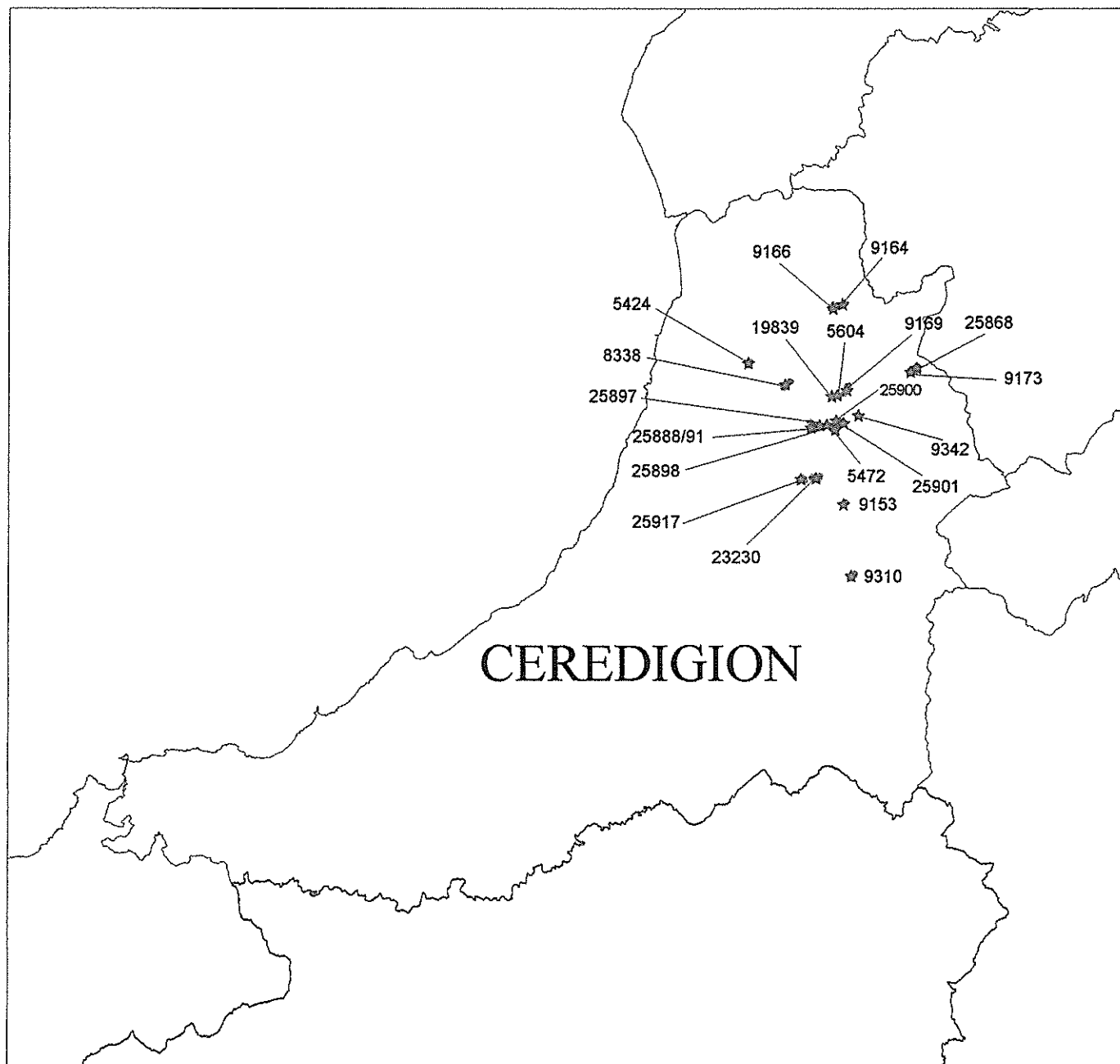
Scale: 1:2500



Metal Mines Project 2001-02

Map 22: Location of Metal Mines visited

Scale: 1:500,000



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- Protheroe-Jones, R 1993 Ceredigion Metal Mines Survey Archive, held in the Dyfed Regional SMR, Llandeilo
- Timberlake S 1996 "Ty'n y Fron Mine, Cwm Rheidol" in *Archaeology in Wales Vol. 36, 1996*

METAL MINES PROJECT 2002

INTERIM REPORT

REPORT NUMBER 2002/46

MAY 2002

This report has been prepared by Paul Sambrook

Position Heritage Management Projects Officer

Signature Date

This report has been checked and approved by Louise Austin on behalf of Cambria Archaeology,
Dyfed Archaeological Trust Ltd.

Position Principal Archaeological Officer

Signature Date.....

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