

MINE NAME: PARYS

Archaeological

Amlwch Industrial Heritage Trust

The Parys and Mona mines on Mynydd Parys constitute an industrial archaeological monument of international importance, the workings originating in the Bronze Age (ca. 3500y BP) and dominating world copper markets in the 1780s. Underground production ceased in the 1880s but a deep exploratory shaft has recently been sunk by Anglesey Mining pic with a view to future production should economic conditions permit. A survey of the industrial archaeology, (Gwynedd Archaeological Trust Report No.292, 1998) identified over 400 features of archaeological significance on Mynydd Parys.

Of these features the following six have so far been made Scheduled Ancient Monuments by Cadw:

| | |
|------------------------------------|-------------------|
| The Great Opencast | (No. AN111D) |
| Windmill | (No. AN111A) |
| Pearl shaft engine house | (No. AN111 B) |
| Central precipitation pits | (No. AN111C) |
| Dyffryn Adda reverberatory furnace | (No. AN135 (Ang)) |
| Mona Smelting site | (in process) |

However, there are numerous other features (kilns, mine yards, powder houses, shaft heads, working floors, etc.), together with (currently) 2km of accessible underground workings, all of which are in urgent need of conservation and research. Further scheduling is anticipated as research identifies and prioritises specific features.

Moreover, as a whole, the mountain comprises one of the newly recognised 'Landscapes of Outstanding Historic Significance' in Wales. The whole area is under future consideration within the new 'European Route of Industrial Heritage' (ERIH) in the UK, and ultimately as a potential 'World Heritage Site'.

The prime consideration at Mynydd Parys is the conservation of this important historic mine site, and also the facilitation of research and tourism. The site is unusual in being large, and therefore complex, but relatively undisturbed; it therefore needs to be conserved as a total entity. To this end the Trust will be commissioning Conservation and Management plans. The Trust would therefore wish in general to avoid any modifications which would damage its structural integrity.

In particular, the several million tons of surface spoil are an intrinsic feature and an important component of the industrial mining history. The spoil essentially recording through its stratification, lithology and shaft association the historical development of the mines. If possible the spoil should remain undisturbed by any redistribution, capping, or attempts (unrealistic) at revegetation. Such an exclusion zone would cover most of the mountain, but the peripheral areas would be available for remediation.

Cadw

This is a mine of international importance. The site contains two areas of Scheduled Ancient Monument areas (AN111 and AN135), plus many listed buildings. See Amlwch Industrial Heritage Trust.

Gwynedd Archaeological Trust

A Gwynedd Archaeological Trust report carried out in 1997

identified a total of 466 archaeological sites associated with the mining at Parys Mountain. A number of these are scheduled. The mine and part of Amlwch also forms a landscape identified in the recent non-statutory (Cadw / ICOMOS / CCW) Register of Landscapes Of Outstanding Historical Interest in Wales. Any remediation of the waste spoil would adversely affect an archaeological resource of great value, containing mining techniques from the Bronze age to the 19th century.

Mineralogical

Amlwch Industrial Heritage Trust

These unique environmental features give rise to 5 geological SSSI.

The mountain already attracts large numbers of school and university students on account of its unique ore deposits, including anglesite (PbSO₄) and a range of other unusual sulphate minerals. It is the only UK example of a "volcanic associated massive sulphide" deposit ('VMS' - 'Kuroko' type) and displays associated features (slumped pyritic beds, hydrothermal silica, etc.) and structures, (nose of an isoclinal syncline).

Countryside Council for Wales

It has been recommended by the National Museums and Galleries of Wales consultant's that the SSSI designation be extended to encompass the majority of spoil. Parys mountain is undoubtedly one of the most famous mineralised sites in Wales.

The mineralisation is dominated by pyrite and occurs within lensoid ore bodies, and as slumped sulphides, stockworks and disseminations. The pyrite is associated dominantly with chalcopyrite, but blende, galena, minor lead-bismuth sulphosalts and tetradymite group minerals occur. As the most famous mineral deposit in Wales, with a form quite unique in Great Britain, Parys Mountain will remain the subject of much active research work.

The features of geological interest are located both in-situ exposures and in the spoil tips. Therefore remedial works involving the infilling of open-cuts or removal/capping of spoil tips would severely compromise the interest.

Biological (Habitat / Species)

Amlwch Industrial Heritage Trust

These unique environmental features give rise to 7 biological (lichen) SSSI and attract large numbers of school and university students as a result of its extreme acid environment. This is one of the most acidic naturally occurring environments recorded (pH as low as 2.1) with high levels of heavy metals, and has an associated specialised microflora (bacteria and algae) and metal-tolerant lichen flora.

Countryside Council for Wales

Flora

Any disturbance to spoil in and around the SSSI's is potentially damaging to lichen interests, Rock exposures must be left uncovered and accessible in SSSI areas as lichens can be found covering any hard surfaces (e.g. rocks, masonry). There is also SSSI designated area covering old precipitation pits/settlement ponds (SH452897) now managed under a Tir Gofal agreement. There is no grazing allowed, with the intention to allow it to develop into a willow carr and reed swamp.

PARYS cont

Wading birds/water fowl currently uses the area. Hence any reduction in water supply would reduce suitability of habitat.

Fauna

Barn owl roost at SH 4380 9140 in a small building containing a reverberatory furnace (expected to soon be designated a SAM). Disturbance (heavy machinery noise or inappropriate lighting) could cause barn owl to desert, hence consultation required for and works in this area. Water vole and great crested newt habitats. No survey data is available for these species and a survey would be taken prior to any remediation work commencing.

CCW would require consultation regarding any proposals at this site.

Other

Amlwch Industrial Heritage Trust

The Amlwch Industrial Heritage Trust (AIHT) was established in 1996, specifically to conserve, research, and present to the public the industrial mining heritage of Mynydd Parys and the associated maritime heritage at Porth Amlwch. To this end grants of the order of £200k (from ERDF Obj.5b; WDA & Landfill Tax, etc.) have been gained so far and enabled the construction of Heritage Trails, car park, viewing platform, Information Centre, and production of leaflets. Further major grant applications have been submitted to further conserve the sites and develop research (e.g. a Field Study Centre at Dyffryn Adda on the northern flank of Mynydd Parys) and tourist facilities (e.g. at Porth Amlwch).

The Trust is incorporating pollution control into its management plans, whilst recognising that the extreme acidity and heavy metal pollution are a scientific asset in terms of teaching and research into AMD remediation. In fact the original copper precipitation process was itself a partial remediation process which the Trust would wish to re-introduce for research, production and tourism, and to supplement by a range of experimental and established modern wetland procedures. The silted up precipitation ponds at Dyffryn Adda are ideally suited to such a purpose, and the site could also host a Field Study Centre. We would therefore welcome drainage measures within such a framework. This aspect is developed below in the context of the possible dewatering Mynydd Parys.

Mynydd Parys is an important international scientific and heritage resource, and the Trust is developing extensive plans for the management of the mines and the historic landscape generally.

Anglesey Mining plc

Own much of the surface area and lease all of the mining rights at the site. This company has been active on the site since 1984, but its exploratory workings (which involve no discharges) are separate from the 'old' workings on the mountain, which remain mostly flooded.

Anglesey Council

The council is endeavouring to facilitate, with other members of the working group, remedial works to an underground dam in the joint level at Dyffryn Adda which is holding back water and flooding workings (above the

45 fathom level) in Pary/Mona mines. There is also potential to develop solutions to the treatment of acid mine drainage which will be of interest to public and scientific bodies.

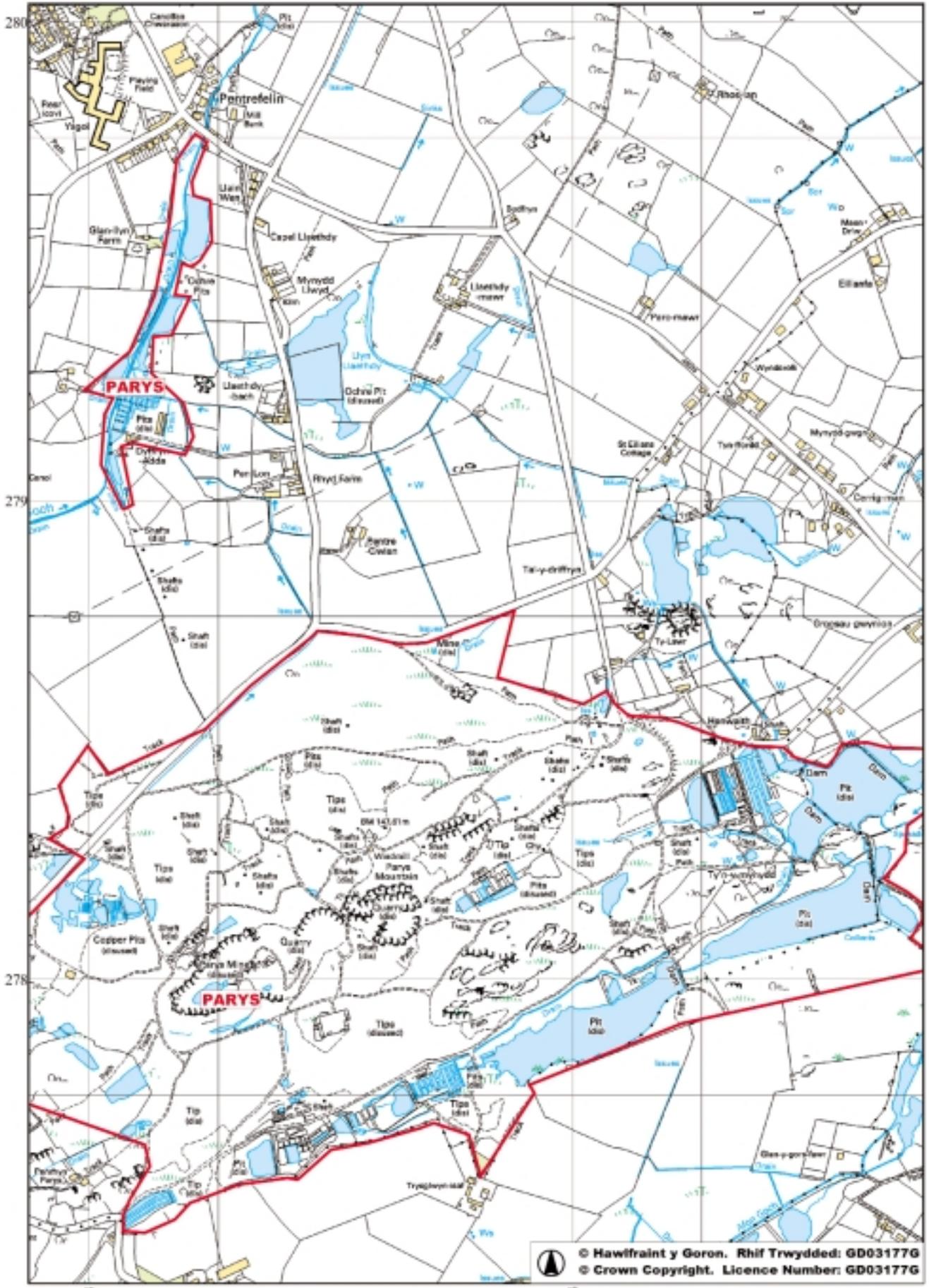
Crown Estates

The Crown (with Wardell Armstrong appointed as mineral agents) has ownership of gold and silver only. This is not a Mines Royal and to date there is no record of gold or silver revenues to the Crown Estate. Anglesey Mining plc has a lease from the Crown Estate in anticipation of gold and silver extraction and rental payments have been made in respect of the lease.

Welsh Development Agency

Special uses for this site include tourism and links to Amlwch Port. In 1978 the WDA ranked this site 2nd, in addition it was also noted that the site was impacting the environment.

PARYS



Approximate Scale - 1:10,000