

Southeast Wales Industrial Ironworks Landscapes

Year 5: The Upper Sirhowy, Ebbw and Ebbw Fach valleys

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A report for Cadw
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1 Introduction and Acknowledgements

1.1 Introduction

The landscapes of the iron making industry of South East Wales represent an increasingly rare and important historic landscape and archaeological resource, which remains under considerable threat from a variety of developments from reclamation and landscape renewal to residential and industrial development. For this reason the current project has been instigated, to assess the current state of survival/preservation of the ironworks landscapes of the northern coalfield rim, and inform conservation, protection and management requirements through providing recommendations for the proactive and long-term management the ironwork areas.

In essence the work will help to ensure that any necessary change to industrial ironworks landscape is accommodated without sacrificing the essential integrity and coherence of the historic environment.

The latter half of the twentieth century saw the wholesale clearance, reclamation and development of many industrial sites in the South East Wales region. Ironworks, in particular have been vulnerable to landscape reclamation and renewal schemes, to such an extent that the vast majority of ironworks have at least in part been affected, and the process is ongoing. Therefore, it is both opportune and welcome that this project has been instigated, commissioned and funded by Cadw as part of an on-going initiative. It is hoped that this report will provide the catalyst for the urgent consideration of the future conservation of ironworks and their associated landscapes.

The current report sets out the results of the project, with a section defining the aims, and methodology. It also summarises the known and potential threats and provides general recommendations and establishes management/conservation priorities.

The main body of the report, Section 6, identifies and briefly describes the extraction areas and landscapes and water management sub-systems visited during year 5 of the project. These areas have been digitally mapped using a MapInfo Geographical Information System, and figures have been produced to illustrate the various interests. The extraction areas and water management features mapped are based on a combination of the first edition 1:2500 OS map, Landmark mapping, kindly provided by Cadw under licence agreement, and aerial photographic mapping.

1.2 Acknowledgements

The project was commissioned by Cadw and undertaken by the Glamorgan-Gwent Archaeological Trust (GGAT) in their remit as the regional archaeological body responsible for the understanding and preservation of the archaeological resource in southeast Wales.

The Trust would like to thank the staff of the Glamorgan Record Offices, Cardiff and Swansea, Gwent Record Office and the National Library of Wales for their assistance, The National Assembly for Wales for their helpful assistance and the staff at the National Monuments Record (NMR), RCAHMW, Aberystwyth, in particular Medwyn Parry and Penny Icke. The Trust would also like to thank Judith Alfrey of Cadw for providing comments and advice during the project. Thanks are also due to Jessica Mills and Philip Hobson at Cadw.

For advice in obtaining information on opencast and reclaimed land, the Trust would like to thank the staff of Unitary Authorities, especially Dave Whetter of Caerphilly CBC's Engineering Division. The Trust would also like to thank Anthea Brown of the British Geological Survey, and David Clarke, Joe Dearden, Graham Martin and Mike Sheldon of the Coal Authority for their assistance. Digital mining information – past opencast site data was kindly provided by the Coal Authority (ref: CA29/03/02).

The report has been prepared by Ellie Graham and Richard Roberts, with the assistance of other staff of the Glamorgan-Gwent Archaeological Trust, notably Charina Jones, Historic Environment Record Manager. The digital mapping has been prepared by Ellie Graham, Richard Roberts and Paul Jones of the GGAT Illustration Department.

1.3 Copyright Notice

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2 The Study Area

The overall project entailed work on the ironworks and related features within the northern coal rim area. These are located within the respective Unitary Authorities: Blaenau-Gwent, Caerphilly, Merthyr Tydfil, Monmouthshire, Neath Port-Talbot, Rhondda Cynon Taff, and Torfaen.

The study was initially limited to the northern coalfield rim; specifically those sites described in L Ince 1993 *The South Wales Iron Industry 1750-1885*, Merton Press. The northern coalfield rim of South East Wales supplied over 30 major blast furnace iron-producing sites. However, this year's project was limited to the Heads of the Valleys Region, specifically to the area designated by the Heads of the Valleys Initiative Strategy.

Between the 1790s and 1840s the Heads of the Valleys in particular was the largest producer of iron in Britain, if not the world. Whilst the key areas of Blaenavon and Merthyr Tydfil have undergone intensive study much of the rest of the northern coalfield rim remains have been afforded little in the way of recording. The RCAHMW through their upland survey and aerial mapping have studied this area as a priority and a lot of data is and will become available from them. There are many other local historians/archaeologists who have published work on different parts of the area and the first edition OS map contains an extraordinary picture of this landscape at the end of its productive life. Due to the large amount of work already completed in the areas of Merthyr Tydfil and Blaenavon, these areas were omitted from this study but known results have been mapped as part of the project.

The first four years of this project studied the core Ironworks areas themselves, and their associated transport links (restricted to limestone railways and tramroads), water management systems and extensive extractive landscapes. As a whole all these components contribute to a complex, integrated landscape within and extending between each valley region. From Year three modifications were made to the remit, scale and with these the extent of the study area to allow the project to tie into the requirements of programmes, such as the Heads of the Valleys Initiative, and to provide results on a landscape scale through increasing available baseline data in a rapid way.

The study area was revised to cover the area of the Heads of the Valleys initiative, thereby excluding ironworks sites, to the west of Hirwaun and beyond the eastern boundary of the Initiative area, excluding the Clydach Valley. Because of this, the need to cover a larger geographic area in the third and fourth year than originally proposed, combined with the complexity and large scale of the water management systems and extractive areas, and the need to rapidly provide baseline data, it was decided to restrict the third and fourth years' projects almost exclusively to mapping exercises.

During the current year the study will be limited to the eastern part of the previous year's study area, with work concentrated on the upper Sirhowy, Ebbw Fach and Ebbw valleys and the watershed to the north of the Sirhowy Valley, an area largely contiguous with Blaenau-Gwent Unitary Authority, though including small portions of adjacent Brecon Beacons National Park and Monmouthshire.

3 Purpose of the Report – aims and applications.

A number of Industrial Iron working landscapes are well known and well protected. Notably the World Heritage Designation at Blaenavon, but some protection is also afforded through inclusion on the Historic Landscape Register at for example Merthyr Tydfil and Cwm Clydach. In other areas only those elements that are Scheduled or Listed are protected and consequently other elements of the landscape relating to the monument are more exposed to removal or impairment through re-development. Industrial landscape reclamation and opencast are considered to be the main threats to these endangered and rapidly disappearing landscapes and their component elements whilst other developments could also have impacts.

It was proposed that the study be initially limited to the northern coalfield rim, specifically those sites described in L Ince 1993 *The South Wales Iron Industry 1750-1885*, Merton Press. The northern coalfield rim supplied 30 major blast furnace iron-producing sites. A simple but valuable exercise comprised comparing evidence from depictions of the core ironwork areas on the first edition OS map with modern maps and aerial photographic material, with the intention of identifying what survives and is visible, what survives and is buried, and what has been destroyed. The boundaries of the initial study were taken as the limits of the core ironworks areas and did not extend to wider transport links, waterworks and associated extraction sites, which were to be covered in the future. Validation was through site visits, consultation with local land reclamation departments and talking to local experts. Each ironworks core area was categorised as archaeologically sensitive areas, areas of archaeological potential or sterile areas. As a separate document a review of the scheduling of these sites could then be undertaken.

Large-scale regeneration proposals, such as the Heads of the Valleys Initiative, represent as much an opportunity as a threat to this existing and as yet largely unquantified heritage resource. Whilst environmental enhancement work is potentially damaging to the archaeological resource, the Heads of the Valleys programme proposes five key strategic goals, the leader of which is ‘an attractive and well-used natural, historic and built environment’, and it is envisaged that this will be achieved through strategic landscape-scale environmental enhancements. A further goal refers to ‘an appealing and coherent tourism and leisure experience’, which would include for large regional-scale projects. There is considerable opportunity for integrated heritage management, and for this reason it has been attempted to tailor the ironworks landscape project to fit the landscape-scale focus of the Heads of the Valleys programme.

Local conservation initiatives, which could allow the industrial monuments to be tied in with ecological protection in amenity developments, offer further example of the potential of proactive management.

Whilst there is this wealth of information Cadw are endeavouring to improve the protection and management of what is perhaps one of the most important aspects of Wales’ history. Cadw would like to see this project attempt at building a consensus and partnership over how to tackle the protection and management issues and assimilate the information gathered into these processes. This may in effect act as a scoping for a larger project to be taken forward in future years.

The study should ultimately provide the information necessary to:

- assess the current state of survival/preservation, conservation and the recording requirements (of the ironworks landscapes of the northern coal rim)
- inform future protection and management issues, including future scheduling proposals (regarding the ironworks landscapes of the northern coal rim)
- inform the relevant Unitary Authorities on industrial ironworks landscape issues in the planning process, including forward planning
- assist in assessing the wider impact of future proposed development on industrial ironworks landscapes
- assist in the evaluation of the aesthetic or amenity value of the industrial ironworks landscape
- assist in measuring the effect of individual development proposals on the overall historic integrity and coherence of industrial ironworks landscapes, with particular reference to the issues of outright removal, severance, fragmentation or dislocation of the historic elements.
- assess the cumulative effects of secondary or piecemeal changes over time.

An important component of this project has and will continue to be the engagement of those who have a direct interest in the industrial ironworks landscape study and the applications that will be derived from it. It is hoped that this should enable decisions on the protection of the historic environment to be made in a more informed way. It is intended therefore to keep interested parties such as Cadw, RCAHMW, CCW, DEIN, the Local Unitary Authorities, and the Brecon Beacons National Park informed on the progress and findings of the studies.

Several of these objectives are directly applicable to the Heads of the Valleys programme, notably informing authorities on landscape issues, and assisting in the enhancement of the amenity value of sites. In essence the work will help to ensure that any necessary change to industrial ironworks landscape is accommodated without sacrificing the essential integrity and coherence of the historic environment.

The Ironworks were the key stimulant for the development of the surviving communities; as such these are iconic markers in the Welsh industrial landscape. This project aims to provide a deeper understanding and appreciation of these remains leading not just to a better and wider appreciation of their importance as continuing focal points in the South Wales landscape but with the intention that raised awareness and protection can be used as an impetus for sensitive regeneration and community focus.

The results of this project would seek to link into and inform existing strategies such as the 'Wales Spatial Plan' (Welsh Assembly Government 2004) and the related 'Heads of Valleys Strategy' (Welsh Assembly Government 2005), informing the process of promoting and enhancing local heritage sites within a framework of sustainable development. The latter, detailed in the document '*Heads – We Win... A Strategic Framework for the Heads of the Valleys*', (Welsh Assembly Government's vision for the Heads of the Valleys within the context of the Wales Spatial Plan), includes the overarching aim that by '*the year 2020, the [Heads of the Valleys] area will be: a culturally rich, dynamic network of vibrant and safe communities a place where people want to live, work and play with a sustainable, high quality of life and a thriving population helping to drive the success of South East Wales as an internationally recognised Capital Region.*'

Among the key themes of the Heads of the Valleys Programme are the following: ‘An attractive and well-used natural, historic and built environment’, which would provide an ‘appealing and coherent tourism and leisure experience’. The Heads of the Valleys Initiative’s strategic goals and programmes, produced through stakeholder consultation and analysis of the available research and evidence, has been developed around five priority themes, each underpinned by a number of key Strategic Programmes (SPs):

An attractive and well-used natural, historic and built environment

- SP1: A sub-regional approach to the regeneration of settlements
- SP2: A perception-changing landscape
- SP3: Well-used and easily accessed amenities

A vibrant economic landscape offering new opportunities

- SP4: Directly linking people with work
- SP5: Joined-up solutions for business
- SP6: Linked opportunities for businesses and individuals

A well-educated, skilled and healthier population

- SP7: Improving health through prevention
- SP8: Integrated lifelong learning

An appealing and coherent tourism and leisure experience

- SP9: Linked local and regional attractions and facilities
- SP10: An integrated ‘offer’

Public confidence in a shared bright future

- SP11: Visualising the Strategy
- SP12: Pro-active communications and engagement

The following identified strategic programmes SP1, SP2, SP3, and SP9 all have implications for the heritage resource across the Heads of the Valleys region; these should, however, be viewed as opportunities to allow the quantification, assessment, and sensitive management and promotion of the Heritage resource of the Heads of the Valleys area.

The DEIN strategy ‘Working Together For Wales’ is viewed as having the potential to tie in with the broad tourism and regeneration, in addition to ‘urban and rural renewal activities, land reclamation and environmental improvements to sites and property’.

A raft of numerous supporting plans, policies, strategies and guidance exists to underpin the Heads of the Valleys Initiative and are relevant to the future preservation and management of the heritage resource in the Heads of the Valleys area; these have been summarised in ‘Annex A: Review of Relevant Plans, Policies and Strategies’, and include the following: *Environment Strategy for Wales; Learning to Work Differently – Sustainable Development – WDA; Planning Policy Wales (March 2002); Circular 60/96; Circular 61/96; Enter the Dragon Economy – SE Wales Development Strategy (Capital Wales); Wales: A Better Country – The Strategic Agenda of the Welsh Assembly Government.*

4 Methodology

4.1 General Methodology

The project involved a rapid interrogation of the computerised Regional Historic Environment Record (henceforth HER), supplemented by other readily available primary and secondary data, such as a search of National Monuments Record (henceforth NMR) data available through ENDEX, and online through the Coflein website. More general works and articles and other sources were also consulted where readily available, though few secondary sources were found to be directly relevant to the study of water management features; where consulted these sources are provided in the bibliography along with other general sources.

The report has been presented in such a way that upgrading of information can be considered through the medium of a GIS system. This allows data storage, manipulation, analysis, interrogation, presentation and future revision of information. Information Technology has therefore been a major component of this project and the current years work contributes to the production of a dynamic and multi-layered digital model for the study area(s).

4.2 Year Five Methodology

During year five the information gathered from the Heads of the Valleys area-wide mapping exercise based on the first edition 25-inch OS map (LANDMARK Historic Mapping) carried out during the previous two years was refined and confirmed through further map work and field survey. Pilot work undertaken by the Glamorgan-Gwent Archaeological Trust at Ffos-y-Fran, Merthyr Tydfil and by Archaeological Investigations Ltd at Rhyd-y-Car, Merthyr Tydfil provided a useful methodological framework. The Year five study was restricted to one of the valley group landscapes identified during Year four: The upper Sirhowy, Ebbw Fach and Ebbw valleys and the watershed to the north of the Sirhowy Valley around Trefil, covering a series of closely spaced Ironworks from Nantyglo to Sirhowy and their connected landscapes.

The study took the form of more detailed targeted map analysis and regression utilising the first edition 25-inch OS map (LANDMARK Historic Mapping), and other available mapping, ie estate, industrial and Tithe maps, in conjunction with consultation of further detailed aerial photographic material (see Bibliography, below). The digital mapping (polygon and point data) was revised with the level of detail increased (using MapInfo 9). The project also involved interrogation of the computerised regional Heritage Environment Record (HER), relevant data and information held by the RCAHMW (NMR records and the on-line Coflein resource) were also accessed as was up-to-date information on scheduled and listed building held by Cadw, supplemented by other readily available primary and secondary data, including documentary and cartographic sources held at the National Library of Wales (NLW), and Local Record Offices. The searches of the NMR, provided further details on sites identified from 'Coflein' and the Endex material and aerial photographic sources, of particular note was the recent upland survey carried out by John Winterburn Archaeological Services in 2005 (*Uplands Initiative 2005. Mynydd Llangatwg*), and the corresponding *Uplands Initiative Mynydd Llangatwg Database January 13th 2006 JWAS-007/05*. More general works and articles and other readily available sources was also consulted (see Bibliography, below).

An element of targeted fieldwork also formed part of the project during the current year; the areas, considered to have the highest potential on the basis of the mapping study undertaken

during Year four of the project, were further assessed and specific field visit areas were selected. The field visits allowed the extent, condition and significance of the resource to be further assessed, and allowed the preparation of area and site-specific conservation and management recommendations and scheduling proposals. A proforma was devised and used for field recording, and the resultant field records transferred later to a database (MSAccess 2000) compatible with the regional HER.

The fieldwork allowed the condition of surviving extractive areas/water management systems visited and the remains within to be noted and their significance to be rapidly assessed. The following condition ratings were devised and used:

A – Intact: well-preserved extraction area/water management system with abundant associated features visible on the surface.

B – Moderately Intact: good condition, occasionally with associated features visible and high potential for buried remains.

C – Damaged: surface features survive in disturbed condition, some potential for buried remains.

D – Substantially Damaged: features survive in a heavily disturbed condition with form and function no longer obvious/feature found to be largely destroyed.

E – Altered: visible remains of feature substantially altered (e.g. sites where substantial renewal or modernisation has occurred)

U – Unknown: unknown surviving potential (e.g. sites inaccessible for survey, i.e. those on private land, hidden by vegetation, or buried).

The overall archaeological significance or potential of the resource was arrived at through considering the following factors, where information was readily available:

- **Rarity** – in terms of period, type, etc
- **Representativeness** – representative range of elements
- **Survival** – percentage survival (areas and systems only)
- **Condition** – overall condition of surviving elements
- **Group Value** – structural/functional coherence of surviving features, but also wider ironwork group value
- **Coherence** – retention of historic meaning and significance
- **Integrity** – survival of original character or form
- **Potential** – potential for future study or analysis
- **Amenity** – potential for development for public educational recreational amenity
- **Association** – to events, figures, technological advancement, or availability of documentary evidence
- **Status** – statutory protection

Given the nature of both extractive and water management features, where direct association is frequently difficult to establish, group value and integrity were frequently the overriding factors used in determining archaeological significance.

The archaeological significance arrived at was allocated one of the following values:

- A – National Significance (A? – Potential National Significance)
- B – Regional Significance
- C – Local Significance
- D – Minor Significance
- U – Unknown/Unestablished

4.3 Task Breakdown

1. Review and compile baseline documentation

- ❑ Compilation of necessary documentation/SMR/NMR data, Cadw Information, etc
- ❑ Obtain, compile, and review mapping material: 1st edition 1:2500 OS and other available historic maps of chosen study area (area c)
- ❑ Compile source list and bibliography for project
- ❑ Review secondary source data against chosen study area.

3. Undertake historical mapping and production of revised detailed area constraint maps

- ❑ Undertake detailed mapping (digital MapInfo point and polygon data)
- ❑ Review and chose areas and features for targeted field visits
- ❑ Undertake targeted field survey visits
- ❑ Produce area and feature descriptions
- ❑ Review general condition and value of surviving remains (based field visit observations, source material and against modern map, aerial photographic data, etc)
- ❑ Revise existing GGAT lists and distribution/area maps

4. Review the assembled data

- ❑ Consider proposals for protection (where identifiable)
- ❑ Revise integrated summary/constraints map including information from earlier years.
- ❑ Discuss conclusions with Cadw

5. Compile and disseminate reports

- ❑ Compile text
 - Briefly review background history of the ironworks of the northern coal rim, historiography, recent research, and significance and importance of individual ironwork landscapes
 - Review relative historical significance and importance of individual ironworks landscapes within chosen study area (ie Area c) based on previous years findings
 - Methodology
 - Introduce areas and features within chosen study area
 - Present results of detailed map regression and aerial photographic exercise
 - Introduce areas and features chosen for targeted field survey work.
 - Set out results of targeted fieldwork within context of detailed background (including map regression) study, and indicate condition and value of identified remains.
 - Review current levels of statutory protection relating to features within chosen study area
 - Review threats and current management proposals/priorities relating to features within chosen study area
- ❑ Make any additional recommendations, eg proposals for protection (separate report)
- ❑ Prepare illustrations for report

Southeast Wales Industrial Ironworks Landscapes

- Produce reports using DTP facilities
- Submit reports to Cadw
- Provide copies to interested parties (SMR and NMR, RCAHMW, LPA planning departments, HOVI, DEIN, etc)

5 Industrial Ironworks Landscapes (after year 4 report)

5.1 Review of Project: Year 1 The Core Ironwork Areas

During year one of the Southeast Wales Industrial Ironworks Landscapes project a number of wider ironwork areas, based on the information contained in Ince 1993 and a rapid mapping exercise, including limited map regression, were identified, and defined; these were further revised and core ironwork areas defined, primarily using cartographic and aerial photographic information, more detailed map regression, tied into baseline HER and NMR information. The result was the identification of some 35 core ironworks areas; these are given in table 1, below.

Table 1. Identified core ironworks areas

Ironworks Number ¹	Ironworks Name	Grid Reference
001	Pontypool (Upper Race, Blaendare)	ST 272 997
002	Varteg	SO 265 055
003	Golynos	SO 260 047
004	Abersychan (British)	SO 258 035
005	Pentwyn	SO 265 033
006	Clydach	SO 227 128
007	Blaina (inc. Cwmcelyn)	SO 199 081
008	Coalbrookvale (inc. Trostre)	SO 194 095
009	Nant-y-glo	SO 192 105
010	Ebbw Vale	SO 174 097
011	Victoria	SO 172 076
012	Beaufort	SO 170 115
013	Tredegar	SO 144 091
014	Sirhowy	SO 144 102
015	Rhymney	SO 113 069
016	Dyffryn	SO 071 032
017	Pentrebach	SO 065 035
018	Plymouth	SO 057 048
019	Ynys Fach	SO 046 060
020	Cyfarthfa	SO 037 068
021	Penydarren	SO 058 072
022	Dowlais	SO 065 074
023	Ivor Works	SO 068 080
024	Hirwaun	SN 993 045
025	Llwydcoed	SN 993 045
026	Gadlys	SO 001 031

¹ Numbers prefixed by IW in main text

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027	Abernant	SO 006 035
028	Aberaman	SO 015 003
029	Ystalyfera	SN 764 084
030	Ynyscedwyn	SN 785 092
031	Onllwyn	SN 839 103
032	Banwen	SN 868 104
033	Melincwrt	SN 824 019
034	Venallt	SN 863 049
035	Abernant	SN 882 063

It was found that historically, many of the ironworks areas had expanded to take in significant areas of valley landscape; this was particularly the case with the larger ironworks conglomerations within the upper valleys of the Blaenau, such as at Nant-y-glo, Ebbw Vale, Rhymney, Blaina, and Coalbrookvale. Conversely, in the case of some of the less significant ironworks, such as the once jointly operated Varteg and Golynos, in the area north of Pontypool between the British Ironworks and Blaenavon, it was found that the constituent parts of the core area were often spread over some distance, with core activities being shared between different sites.

Whilst 35 Ironworks Areas were identified for the purpose of the year one report, the actual number of ironworks was 38, as several ironworks had been combined, because of proximity and development such as IW007 Blaina, which included the Cwmcelyn Ironworks and IW008 Coalbrookvale, which included Trostre Ironworks. It should also be noted that several of the more extensive ironwork areas identified, were out of necessity effectively split up into separate sub-areas. These include Ebbw Vale, which can be sub-divided naturally into three areas, along the lines of the core furnace area, the Lower Mill site, and the Bessemer Steel works, and Rhymney, which comprises the Old Furnace, the main Rhymney Ironworks site itself and the adjacent Bute Works.

The year one project entailed a review of existing protection and identification of potential threats to the resource. In terms of protection fifteen of the core ironwork areas examined were found to have some degree of current statutory protection (ie Scheduled Ancient Monuments or Listed buildings); that is between 40% and 43% of the original resource within the study area limits. The analysis indicated that of the core ironworks areas with visible standing remains, 75% are currently protected to some degree through statutory protection, while just 50% of ironwork areas with buried potential are similarly protected.

The level of statutory protection was further broken down to allow an analysis of the protected resource against surviving monument class (ie furnaces, charging ramps/platforms, calcining ovens/coking oven, casting houses/foundries, rolling mills, engine houses, waterwheels/pits, offices and other buildings), where surviving as visible standing, or positively identified buried remains. This has been specifically undertaken to identify classes of monument that are underrepresented within the current protection regime, but also identify core ironwork areas, which might benefit from the extension of existing protection.

The main features of the ironworks sites are considered to be their furnaces and charging ramps/platforms; sixteen core ironworks areas out of 35 within the study area were found to retain visible standing, or positively identified buried remains of furnaces/furnace banks

(including a count of two for Abersychan – with the scheduled air furnace). The nationally important furnaces (and engine house) at Banwen (SAM Gm420), despite protection through scheduling are in urgent need of conservation. Twelve of the 17 furnaces/furnace banks identified are currently protected by statutory protection: notably the furnace bank at IW010 Ebbw Vale (Listed Building Grade II*, Cadw ref: 22,531) is not scheduled. The furnaces at IW004 Abersychan, IW029 Ystalyfera, IW022 Dowlais (buried) and IW018 Plymouth (buried) are also of particular significance and are currently unprotected through legislation. The number of charging ramps/platforms similarly protected mirrors the figures identified for furnaces with 11 protected out of 18 identified, with that at IW010 Ebbw Vale listed (LBII*, Cadw ref: 22,531) but not scheduled. Significant unprotected charging ramps/platforms survive at IW029 Ystalyfera, IW004 Abersychan, IW021 Penydarren, and possibly also at IW009a Nant-y-glo. Other unprotected remains of charging ramps/platforms might also survive at IW012 Beaufort, IW013 Tredegar and IW025 Llwydcoed.

The survival and protection of ancillary features displayed a slightly different pattern to the main ironworks features; in general survival of ancillary features within the study area such as calcining ovens/coking ovens, casting houses and foundries, was found to be relatively low and where these features did survive they were, with a few exceptions, invariably protected. Remains of calcining ovens/coking ovens survive at five ironworks, though generally in a fragmentary or buried condition. Of the calcining ovens/coking ovens identified four are protected through legislation; that at IW026 Gadlys, which had recently been conserved, was listed (LBII, Cadw ref: 10,846), but not scheduled. The latter in terms of condition was the best surviving example of those within the study area; most remain as 'sites of', or buried. Of the five ranks of ovens originally located at IW004 Abersychan, one recorded in 1994 (Ironbridge Institute and RCAHMW 1994) survives apparently in poor condition (Riden 1994); the site is currently unprotected.

Casting houses/foundries were identified within five ironwork core areas; all are currently protected through legislation. The only unscheduled example is the foundry at IW004 Abersychan, which is a grade II* listed building (Cadw ref: 14,870). Mills and forges are similarly well-protected: these include both the forge/workshop (occupied) at IW015 Rhymney a grade II listed building (Cadw ref: 16,882), and the remains of two possible mills within the scheduled area (SAM BR157) at IW024 Hirwaun. Unusually the well-conserved brick-built mill/engine house and adjacent chimney (NPRN 34,037) at IW030 Ynyscedwyn is as yet unprotected through statutory legislation.

The level of protection afforded to surviving ironworks related engine houses is generally high with eight of the ten identified examples adequately protected through listing and scheduling. Those Engine houses, which are listed rather than scheduled (eg Grade II* Listed engine house at IW019 Ynys Fach, and the Grade II Listed examples at IW022 Dowlais and IW026 Gadlys) are occupied and have been found alternative uses. As yet unprotected, in addition to the aforementioned example at Ynyscedwyn, are the buried remains of two identified engine houses at IW010 Ebbw Vale; these located to either end of the grade II* listed furnace. Only three waterwheels/wheel pits have been identified within the study area; these are all protected through scheduling; one at IW014 Sirhowy also being grade II* listed (Cadw ref: 22,496). It should be noted that due to the nature of these features a strong likelihood exists that buried remains might survive elsewhere, as yet unknown.

Of the twenty or so miscellaneous features such as offices and other buildings identified five are currently unprotected by legislation. The more significant are the tramroad tunnel beneath the furnace bank at IW018 Plymouth, the weighbridge and weighbridge house, and the smithy and carpenter's shop at IW032 Banwen, the Company shop/office at IW009 Nant-y-glo (within 009a), the office at IW027 Abernant, and the Company shop and offices at IW034 Venallt; the latter three sites are all now occupied domestic properties. The unprotected features at Banwen have considerable group value with the nationally important features within scheduled area to the north (SAM Gm420), and it was noted that protection should be considered.

A review of identified threats undertaken during year one using Unitary Authority development plans as a basis. Other potential threats, mainly from dereliction were identified in particular from the site visits.

The year one project included rapid site validation visits; in fact a cross-section of ironworks (nineteen of the thirty-five) within the study area was visited, with the exception of the Merthyr Tydfil area (previously covered by Historic Landscape Characterisation work). The site visits in conjunction with documentary and cartographic sources were undertaken to validate the ironwork boundaries in their current state and to establish the current condition/survival, potential for survival of the archaeological resource within the identified ironwork areas.

The archaeological resource for each ironwork core area was assessed in relation to the level of current statutory protection as well as condition, archaeological value, presence of visible remains and buried potential. It was found that of the 35 core ironwork areas (ie or a maximum 38 ironworks) 21 retained visible remains, while 30 were considered to have some level of buried potential. The results are summarised in Table 2, below.

Table 2. The core ironworks areas: condition and archaeological value

Ironworks Number	Ironworks Name	General Condition of Site ²	Archaeological Value (Grading on figures)
001	Pontypool (Upper Race, Blaendare)	Reclaimed and landscaped	C
002	Varteg	Cleared and landscaped	C
003	Golynos	Reclaimed and partly redeveloped	C
004	Abersychan (British)	Intact (SAMs/LBs)/partly buried	A
005	Pentwyn	Reclaimed and landscaped	C
006	Clydach	Intact (SAM/LBs)/cleared and partly redeveloped	A
007	Blaina (inc. Cwmcelyn)	Reclaimed and redeveloped	C
008	Coalbrookvale (inc. Trostre)	Reclaimed and redeveloped	C
009	Nant-y-glo	Intact (009b: LB)/cleared and redeveloped	A-B
010	Ebbw Vale	Intact (LB)/partly cleared and redeveloped	A-C
011	Victoria	Reclaimed and partly redeveloped	C
012	Beaufort	Cleared and redeveloped	C
013	Tredeggar	Cleared and partly redeveloped	C
014	Sirhowy	Intact (SAM/LB)/partly buried	A

² Based on cartographic, documentary and aerial photographic evidence alone, where not visited.

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015	Rhymney	Intact (015a: SAM/LBs)/reclaimed and redeveloped	A-C
016	Dyffryn	Reclaimed and redeveloped	C
017	Pentrebach	Reclaimed and redeveloped	D
018	Plymouth	Tunnel intact/rest reclaimed and partly redeveloped	A
019	Ynys Fach	Intact (SAM)/partly cleared and redeveloped	A
020	Cyfarthfa	Intact (SAMs/LBs)/ partly cleared	A
021	Penydarren	Cleared and redeveloped	B
022	Dowlais	Intact (LB)/partly reclaimed and redeveloped	A
023	Ivor Works	Intact (LB)/cleared site redeveloped	A
024	Hirwaun	Intact (SAMs/LBs)/partly cleared	A
025	Llwydcoed	Intact?/partly cleared	A
026	Gadlys	Intact (SAMs/LBs)/partly cleared and redeveloped	A
027	Abernant	Cleared and partly reclaimed	C
028	Aberaman	Cleared and reclaimed	D
029	Ystalyfera	Partly cleared and redeveloped	A/B
030	Ynyscedwyn	Partly cleared and redeveloped	A/B
031	Onllwyn	Opencasted and reclaimed	D
032	Banwen	Intact (SAM)/derelict state	A
033	Melincwrt	Intact (SAM)/derelict state	A
034	Venallt	Intact (SAM)/conserved	A
035	Abernant	Reclaimed/partly redeveloped	D

The analysis of cartographic, documentary and aerial photographic material not only allowed the boundaries of the core ironworks areas to be identified, but also allowed a general overview of site condition to be established. In this way the archaeological significance or potential of the resource could be estimated and broken down into the following:

- archaeologically sensitive areas - Grade A
- areas of archaeological potential (moderate-high) - Grade B
- areas of archaeological potential (low-moderate) - Grade C
- sterile areas/low potential - Grade D

The value of the remains in the individual ironworks (IW) areas was considered in terms of certain remains, or where not visible, potential.

Of the 35 core ironworks areas examined during year one some 14 (40% of the total areas) were considered to be straight archaeologically sensitive areas, with an additional 5 (14.3% of the total) archaeologically sensitive in combination (Category A taking president), a single area of moderate-high archaeological potential (2.9% of the total), and 11 areas (31.4% of the total) of low-moderate archaeological potential, whilst the remainder were areas of low or sterile archaeological potential. Of these core areas, only those considered to be archaeologically sensitive or of moderate to high potential have been viewed as considerations, when identifying historic ironworks landscape areas (see section 7.3, below).

5.2 *Review of Project: Year 2 Transport Networks*

Between the 1790s and 1840s the Heads of the Valleys in particular was the largest producer of iron in Britain, if not the world. A major system of tramroads and railroads was developed to furnish the ironworks with raw materials; this system, with the possible exception of the North Eastern Coalfield of England, was ‘by far the most extensive in Britain and therefore the World’ (van Laun 2001). The transport networks of South Wales were notable for a number of important technological advancements, such as the first use of the all-iron edge rail, and here the tramroad was developed to its highest form, with implications for the later development of public railways.

Three major components of the ironworks related transport system were identified:

- the supply lines which extended from the limestone quarries of the northern outcrop to the furnaces (c.100km overall length)
- the supply lines which conveyed coal from the coal and iron ore mines, which generally lay closer to the ironworks than the quarries (comprising a vast network of underground track)
- the exit lines from the ironworks to the ports and canals and nearby markets (originally c. 190km)

The best surviving of these routes were the feeder routes from the limestone quarries, these were considered by van Laun (2001b) to be the most productive for further archaeological research; the routes to the coal and iron ore mines being largely underground or inaccessible, having been tipped over by continued workings or removed by land reclamation and urban development, whilst the exit routes have by and large been obscured by later railways, and road development with the notable exception of the Merthyr Tramroad, which has been excluded from the current study. It was considered that any meaningful examination of the routes to the coal and iron ore extraction sites would have required a substantial amount of desk-top study and original research, which whilst being beyond the scope of the project would have been largely unproductive, and as a result year two Southeast Wales Industrial Ironworks Landscapes project concentrated on identifying and investigating the best surviving element of the ironworks’ related transport networks, the supply lines from the limestone quarries.

The year two study was necessarily fieldwork orientated to allow the presence/absence of surviving remains along the various transport routes (i.e. of the main routes and branches) to be recorded with each surviving transport route subdivided according to condition; condition ratings were devised and used in relation to the overall condition of each section, as was the overall archaeological significance or potential of the resource on a network-by-network basis and allocated one of the following values:

- High
- Medium
- Low
- Unknown

Of the forty-three transport networks and branches ten, that is only 4.3%, were found to have routes surviving to 50% or more of their original length. In terms of overall archaeological significance twelve networks and branches were considered to be of high overall archaeological significance, six of high-medium significance, whilst the remainder were considered to be of medium, medium-low, low, or unknown significance. Those transport networks and branches

with a high or high-medium overall significance rating were further assessed for possible consideration for future protection (i.e. scheduling).

Table 3. Ironworks transport networks giving condition and archaeological value/significance and associated ironwork core areas

Ironworks Transport Number ³	Transport Network Name	Condition Rating	% Overall Survival	Overall Archaeological value	Associated Ironworks: Number(s)/Name(s)
IWT001	Abersychan Limestone Railway	IWT001(i): D IWT001(ii): A	55%	High	IW004 Abersychan (British)
IWT002	Llam-march Railroad	IWT002(i): B IWT002(ii): D	11%	High-Medium	IW006 Clydach
IWT002a	Llam-march Railroad (Waunllapria)	IWT002a(i): B	4%	Medium-Low	IW006 Clydach
IWT003	Llam-march Tramroad	IWT003(i): B IWT003(ii): D IWT003(iii): A IWT003(iv): B IWT003(v): A	35%	High	IW006 Clydach
IWT003a	Llam-march Tramroad Pen-Ffyddlwn	IWT003a: D	0%	Low	IW006 Clydach
IWT004	Clydach Railroad	IWT004(i): B IWT004(ii): C IWT004(iii): B IWT004(iv): E IWT004(v): E IWT004(vi): C	20%	High-Medium (includes: listed tramroad bridge 23837)	IW006 Clydach, IW012 Beaufort
IWT005	Bailey's Llangattock Tramroad	IWT005: D	<1%	Low	IW009 Nant-y-glo, IW012 Beaufort: 2nd Llangattock Tramroad
IWT006	Disgwylfa Main Tramroad	IWT006(i): D IWT006(ii): B IWT006(iii): D IWT006(iv): B IWT006(v): C IWT006(vi): B IWT006(vii): C IWT006(viii): B IWT006(ix): A IWT006(x): B	100%	High	IW009 Nant-y-glo, IW007 Blaina

³ Numbers prefixed by IWT in main text.

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Ironworks Transport Number ⁴	Transport Network Name	Condition Rating	% Overall Survival	Overall Archaeological value	Associated Ironworks: Number(s)/Name(s)
IWT006a	Disgwylfa Pant Draenog	IWT006a(i): B	100%	High	IW009 Nant-y-glo, IW007 Blaina
IWT006b	Disgwylfa East	IWT006b(i): B	100%	High.	IW009 Nant-y-glo, IW007 Blaina
IWT006c	Disgwylfa West	IWT006c(i): B IWT006c(ii): A IWT006c(iii): A IWT006c(iv): A	94%	High	IW009 Nant-y-glo, IW007 Blaina
IWT006d	Disgwylfa Main (conjectured)	IWT006d: D	0%	Low	IW009 Nant-y-glo, IW007 Blaina
IWT006e	Disgwylfa Main (south)	IWT006e(i): A IWT006e(ii): B IWT006e(iii):B	9%	High-Medium	IW009 Nant-y-glo, IW007 Blaina
IWT007	Trevil Railroad Main Line	IWT007(i): A IWT007(ii): E IWT007(iii): A IWT007(iv): E IWT007(v): B IWT007(vi): B	61%	High	IW014 Sirhowy, IW012 Beaufort, IW010 Ebbw Vale with Victoria Ironworks: Rassau Railroad
IWT007a	Trevil Railroad Beaufort Line	IWT007a: D	<1%	Low	IW012 Beaufort: Rassau Railroad
IWT007b	Trevil Railroad Ebbw Vale Line	IWT007b: D	<1%?	Low	IW012 Beaufort, IW010 Ebbw Vale: Rassau Railroad
IWT007c	Trevil Railroad Sirhowy Line	IWT007c: D	0%	Low	IW014 Sirhowy: Rassau Railroad
IWT007d	Trevil line to Victoria	IWT007d: D	0%	Low	IW010 Ebbw Vale, IW011Victoria: Beaufort Tramroad
IWT008	Rassau Railroad	IWT008(i): E IWT008(ii): E	14%	Low-Medium	IW012 Beaufort, IW014 Sirhowy, IW010 Ebbw Vale
IWT009	Hall's Trevil Tramroad	IWT009(i): B IWT009(ii): C	7%	Medium-Low	IW015a Rhymney Upper Furnace: Rhymney Branch Tramroad; Bryn Oer Tramroad
IWT010	Rhymney Tramroad Branch	IWT010(i): U	3%	Unknown	IW015a Rhymney Upper Furnace
IWT011	Morlais East Tramroad and Railway	IWT011(i): B IWT011(ii): D IWT011(iii): E	39%	High-Medium	IW023 Ivor works and IW022 Dowlais Ironworks.

⁴ Numbers prefixed by IWT in main text.

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Ironworks Transport Number ⁵	Transport Network Name	Condition Rating	% Overall Survival	Overall Archaeological value	Associated Ironworks: Number(s)/Name(s)
IWT012	Morlais West Tramroad	IWT012(i): C IWT012(ii): A IWT012(iii): E	34%	High	IW021 Penydarren Ironworks and tramroad, IW018 Plymouth Ironworks
IWT013	Tappendens' Tramroad	IWT013(i): A IWT013(ii): B IWT013(iii): B IWT013(iv): C IWT013(v): U IWT013(vi): E IWT013(vii): E IWT013(viii): C IWT013(ix): A	29%	High	IW024 Hirwaun, IW025 Llwydcoed, IW027 Abernant, IW026 Gadlys
IWT013a	Tappendens' Tramroad West	IWT013a(i): C IWT013a(ii): C IWT013a(iii): C IWT013a(iv): U IWT013a(v): B	16%	Medium	IW024 Hirwaun, IW025 Llwydcoed, IW027 Abernant, IW026 Gadlys
IWT014	Mr Glover's Railroad	IWT014(i): A IWT014(ii): E IWT014(iii): B	65%	High	IW024 Hirwaun (later connection to IW025 Llwydcoed, IW027 Abernant, IW026 Gadlys Ironworks via Tappendens' Tramroad)
IWT014a	Mr Glovers Railroad Bryngwyn Extension	IWT014a(i): B	6%	Medium-Low	IW024 Hirwaun (later connection to IW025 Llwydcoed, IW027 Abernant, IW026 Gadlys Ironworks via Tappendens' Tramroad)
IWT015	Twynau Gwynion Tramroad Line 1	IWT015(i): C IWT015(ii): B	25%	High-Medium	IW022 Dowlais
IWT015a	Twynau Gwynion Tramroad line 2	IWT015a(i): D IWT015a(ii): C IWT015a(iii): C IWT015a(iv): D IWT015a(v): C IWT015a(vi): C IWT015a(vii): B	50%	High-Medium	IW015a Rhymney Upper Furnace

⁵ Numbers prefixed by IWT in main text.

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Ironworks Transport Number ⁶	Transport Network Name	Condition Rating	% Overall Survival	Overall Archaeological value	Associated Ironworks: Number(s)/Name(s)
IWT015b	Twynau Gwynion Tramroad line 3	IWT015b(i): C	87%	Medium	IW022 Dowlais (partly under later Rhymney Limestone Railway)
IWT015c	Twynau Gwynion Tramroad Line 4	IWT015c(i): B IWT015c(ii): U	19%	Medium	IW022 Dowlais (partly under route of Rhymney Limestone Railway)
IWT016	Rhymney Limestone Railway	IWT016(i): E IWT016(ii): B	29%	Medium	IW015 Rhymney Lower Furnace
IWT017	Bryn Oer Tramroad	IWT017: D	0% (within Glamorgan – Gwent)	Low	IW015/015a Rhymney (via Hall's Trevil Tramroad)
IWT018	Tredegear Tramroad	IWT018(i): B	4%	Low	IW013 Tredegear Ironworks
IWT019	Ebbw Vale Private Line	IWT019(i): B	2%	High (includes listed causeway and tunnels 22532).	IW010 Ebbw Vale and IW014 Sirhowy Ironworks
IWT019a	Ebbw Vale Private line addition	IWT019a: D Only a tunnel (IWT019a/001) under Beaufort road survives.	<1%	Low	IW010 Ebbw Vale and IW014 Sirhowy Ironworks (via Harford's Tunnel)
IWT020	Bute Tramroad	IWT020: D	0%	Low	IW015 Rhymney Lower Furnace (via Dowlais' Twynau Gwynion line 4)
IWT021	Beaufort Tramroad	IWT021: D	0%	Low	IW012 Beaufort and IW010 Ebbw Vale
IWT022	Protheroe's Tramroad	IWT022(i): B IWT022(ii): U	26%?	High (IWT022(i) is protected within Scheduled Ironworks Area GM423).	IW034 Venallt
IWT022a	Venallt Tramroad	IWT022a: D	0%	Low	IW034 Venallt
IWT023	Banwen Quarries Tramroad	IWT023(i): U IWT023(ii): D	33%	Unknown (On private land)	IW032 Banwen
IWT023a	Banwen Coelbren Junction	IWT023a(i): B IWT023a(ii): B	87%	High-Medium	IW032 Banwen

⁶ Numbers prefixed by IWT in main text.

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Ironworks Transport Number ⁷	Transport Network Name	Condition Rating	% Overall Survival	Overall Archaeological value	Associated Ironworks: Number(s)/Name(s)
IWT024	Ystalyfera	IWT024: D	0%	Low	IW029Ystalyfera
IWT025	Nant-y-glo - Beaufort	IWT025: D	0%	Low	IW012 Beaufort (also IW009 Nant-y-glo via Bailey's Llangattock Tramroad)

The results of year two of the project allowed the archaeological resource (based on condition, archaeological value, presence of visible remains and buried potential) to be assessed in relation to the level of current statutory protection (i.e. Scheduled Ancient Monuments and Listed Buildings) for each ironwork transport network. It was found that of the 25 ironworks associated transport networks (or a maximum 44 branches) examined during the course of fieldwork, 20 networks (or 33 branches) retained visible remains, of these, 14 (18 branches) were considered to contain sections of high or high-medium archaeological significance.

Nine Scheduled Ancient Monument areas were found to be directly relevant to the study, while a further 12 listed interests, two of which were Grade II* listed, were also visited during the course of the fieldwork. The overriding majority of features currently scheduled or listed along the length of the transport networks surveyed were found with few exceptions to be tramroad bridges or features in association with bridges.

Seven of the transport networks surveyed (10 sections by condition) were found to have some degree of current statutory protection (i.e. Scheduled Ancient Monuments or Listed buildings). The extent of the scheduled resource was considered to be clearly under representative in terms of quantity and variety of transport monument type. Previous scheduling had concentrated on individual features, rather than viewing the networks as a series of interconnected features, and the protected resource had been largely restricted to one particular type of monument (ie. tramroad bridges) almost to the complete omission of others (e.g. tramroad cuttings, revetment, groups of blocks, etc).

The overall archaeological significance of the surviving resource was used to identify the transport networks and branches, which might benefit from further protection. It was found that the linear nature of the resource, and inherently lower value of individual elements, required a different approach to the traditional 'site' based approach when identifying elements of the resource for the purpose of protection. It was felt that a broader landscape approach was necessary to prevent further under representation of some of the less impressive site types, emphasizing the connectivity of the resource through group value, coherence and integrity in particular. The surviving resource had been previously subdivided into sections based on general condition, and group value, among others; these sections were used as the basis for recommending consideration for protection, rather than individual elements.

Ten ironworks transport networks and their branches, some 16 sections, were identified as satisfying the criteria sufficiently to be considered for future protection.

⁷ Numbers prefixed by IWT in main text.

The year two works extended to a review of threats largely identified on the basis of available Unitary Authority development plans. Other potential threats, such as dereliction were identified from the site visits. As a result general conservation management recommendations were made for the surviving networks. This identified a need for future detailed survey for many of the networks, or parts thereof; 17 sites were sufficiently well preserved, or complex, to warrant recommendations for further detailed survey (possibly to include trial excavation).

5.3 *Review of Project: Year 3 Water Management Features*

The project study area was revised during year 3 to reflect that of the Heads of the Valleys Initiative, in addition to areas considered to be well-covered by previous studies, such as the Blaenavon World Heritage site, and Merthyr Tydfil UA, the area of Cwm Clydach to the east and the iron working areas of the upper Swansea and Neath Valleys were also excluded.

With a few notable exceptions on the systems within Ebbw Vale and Merthyr Tydfil (mostly outside the study area), previous work on the water management component of industrial ironworks landscapes within the Heads of the Valleys Initiative area has been limited:

- The RCAHMW (Malaws and Wakelin 1993; Percival 2004) and GGAT (Roberts 1997b, 2001 and 2002; Roberts and Lawler 2003) have carried out survey and other work on the Dowlais Free Drainage System, parts of which have been scheduled as an Ancient Monument. This is ‘a gravity-fed drainage’ system, which supplied water to the ironworks of the Dowlais area including the Ivor (Ifor), “Old” and Penydarren Works (Owen 1977). Other more general work has been published on the water supply system for the iron and steel works of Merthyr Tydfil (e.g.Gross 2001).
- Elsewhere in Merthyr Tydfil assessment work has been carried out on the water system associated with Cyfarthfa and its mineral field on the western side of Merthyr Tydfil (see Roberts 1997; Williams 1997; Frost & Scott Jones 2000; and Oakey and van Laun 2004).
- Archaeological Investigations Ltd undertook an assessment on the drainage system of Ebbw Vale/Glyn Ebwy in Blaenau Gwent (Oakey 2005) with particular emphasis on four reservoir sites: Long Feeder Pond, Guide Mill Pond, and Rhyd-y-blew Reservoir in Ebbw Vale, and Farmers Pond in Bryn Mawr. This work included detailed analysis of the documentary evidence, and provides a developmental history and has mapped much of the system.

The work carried out during Year 3 of the project identified 101 water management related features (81 HER and 20 NMR sites) from searches of the HER and NMR within the revised study area, of these registers, 67 were associated directly or indirectly to ironworks (with an additional four possibly related). Only one water management ironworks related feature within the revised study area was found to be protected through statutory legislation, the Colliery Pumping Engine House (MM216) at the British Ironworks (both a Scheduled Ancient Monument and a listed building).

A rapid review of the first edition OS map effectively increased the baseline data allowing the identification of 601 water management features (including 563 previously unidentified sites), which were subsequently mapped as point, linear and polygon data. These features were subsequently divided into ‘systems’ on a valley-by-valley basis, with the larger water

management features (i.e. reservoirs and leats) used as indicators against which the survival and hence potential archaeological significance of each system could be measured. Archaeological survival values for water management features identified from the first edition OS maps were given as follows:

- A: Intact (original condition) - High Value (not assigned)
- B: Surviving (condition unestablished) - Moderate-High Value
- U: Potentially Surviving (ie buried or drained state) - Unknown Value
- D: Destroyed - Low Value

The analysis of cartographic, documentary and aerial photographic material in conjunction with a comparison of data on opencast land-take from the coal authority allowed a general overview of potential for site survival to be established. Of the 601 water management features identified from first edition OS maps, potential related to ironworks and assessed in terms of potential survival, 161 features were found to survive in a condition, as yet to be established, with approximately 176 additional water management features having the potential to survive in a buried or drained state, whilst 223 were found to have been lost to development such as opencast and urban/infrastructure development. This would indicate that approximately between 27% and 56% of the overall resource has the potential to survive.

Table 4. Water management systems in relation to individual ironworks using reservoirs and leats (survival value B only) as indicators of survival

Ironworks Number	Ironworks Name	Ironworks: archaeological potential	Surviving Reservoirs	Reservoirs: visible survival rating	Surviving Leats	Leats: visible survival rating	Combined survival rating
IW002	Varteg	C	1	20%	0	0%	8%
IW003	Golynos	C	0	0%	1	33%	17%
IW004	British	A	1	17%	1	25%	20%
IW005	Pentwyn	C	0	0%	0	0%	0%
IW007	Blaina	C	4	33%	1	14%	26%
IW008	Coalbrookvale	C	3	75%	4	80%	78%
IW009	Nant-y-glo	A/B	10	29%	20	53%	42%
IW010	Ebbw Vale	A/C	5	20%	4	17%	18%
IW011	Victoria	C	3	33%	2	18%	25%
IW012	Beaufort	C	2	20%	4	44%	32%
IW013	Tredegar	C	9	33%	18	86%	56%
IW014	Sirhowy	A	4	16%	4	29%	21%
IW015	Rhymney	A/C	7	33%	21	54%	47%
IW024	Hirwaun	A	4	44%	6	50%	48%
IW025	Llwydcoed	B	1	33%	6	100%	78%
IW026	Gadlys	A	0	0%	2	100%	100%
IW027	Abernant	C	0	0%	3	50%	25%
IW028	Aberaman	D	0	0%	0	0%	0%

The visible surviving water management features (survival value B only) in relation to individual ironworks indicates that 77.8% of the 'systems' relating to individual ironworks survive to less than 50% of their original extent. Indeed from the results it is clear that there is little useful correlation to be made between good surviving ironwork core areas and areas of good survival of

water management features; the highest combined survival ratings, eg water management features associated with Llwydcoed and Gadlys, generally relate to a small and relatively insignificant original resource.

Table 5. Assessment of water management systems using reservoirs and leats as indicators of survival

Water Management Valley System	Totals	Reservoir Value B	Reservoir Value U	Leat Value B	Leat Value U
Eastern Valley (Cwm Sychan and Cwm Ffrwd)	Valley System Total: Score	15		15	
	Valley System Surviving: Score	2	11	2	6
	Valley System Percentage Surviving	13.3%	73.3%	13.3%	40%
	Maximum Potential Surviving Value	86.6%		53.3%	
Nant-y-glo and Ebbw fach	Valley System Total: Score	50		50	
	Valley System Surviving: Score	17	9	25	5
	Valley System Percentage Surviving	34%	18%	50%	10%
	Maximum Potential Surviving Value	52%		60%	
Beaufort and Ebbw Vale	Valley System Total: Score	44		44	
	Valley System Surviving: Score	10	5	10	13
	Valley System Percentage Surviving	22.7%	11.4%	22.7%	29.5%
	Maximum Potential Surviving Value	34.1%		52.3%	
Sirhowy and Tredegar	Valley System Total: Score	52		35	
	Valley System Surviving: Score	13	8	22	1
	Valley System Percentage Surviving	25%	15.4%	62.9%	2.9%
	Maximum Potential Surviving Value	40.4%		65.7%	
Rhymney	Valley System Total: Score	21		39	
	Valley System Surviving: Score	7	4	21	6
	Valley System Percentage Surviving	33.3%	19.1%	53.9%	15.4%
	Maximum Potential Surviving Value	52.4%		69.2%	
Cynon with the Dare and Aman	Valley System Total: Score	22		28	
	Valley System Surviving: Score	5	7	17	<4
	Valley System Percentage Surviving	22.7%	31.8%	60.7%	<14.3%
	Maximum Potential Surviving Value	54.6%		<75%	

The results of the analysis identified that no water management systems survive in their entirety within the study area, whilst five out of the six systems survive to around 50% of their original extent, with the notable exception of the smaller system at Cwm Sychan and Cwm Ffrwd which had a maximum potential surviving score of 86.6% based on its reservoirs.

The project allowed for a brief description of the respective valley systems and made conservation/management recommendations. The level of available study undertaken for water management features in general is low, with the exception to an extent of the Dowlais free drainage system, parts of the systems, which supplied Cyfarthfa and Ebbw Vale. Whilst the study allowed a rapid establishment of baseline data across the Heads of the Valleys area, it was by its very nature limited, for this reason follow on detailed documentary work and targeted field survey are among the recommendations made.

5.4 *Review of Project: Year 4 Extraction Areas*

During Year 4 of the project the extractive areas associated with the ironworks were mapped and rapidly assessed for potential survival. Initial searches of the HER and NMR identified 351 and 294 extractive features respectively within the revised study area, not all necessarily related to ironworks. Additional NMR data came to light following the production of the Year 4 report; this included details of upland survey carried out in 2005 on behalf of the RCAHMW within the area north of Bryn Mawr. This additional data has been incorporated within the current year's project.

It was found that was not possible to effectively confirm the relationship of the identified HER and NMR resource either directly, or indirectly to ironworks related extraction. Most of the available site information was found to be of an insufficient level to allow relationships with ironworks to be definitely established, however, tramroad links and close proximity to core ironwork's areas was used as an approximate minimum indication. In this way at least 124 HER and 184 NMR registers within the study area were considered to relate directly or indirectly to ironworks.

The statutory protected archaeological resource (ie Scheduled Ancient Monuments and Listed Buildings) for extractive related features within the study area (i.e. Heads of the Valleys Initiative area excluding Merthyr Tydfil and Blaenavon World Heritage site) was limited to only seven Scheduled Ancient Monuments (SAMs), and seven Listed Buildings (LBs). Of the 7 extraction related SAMs four were considered ironworks related: Cwmbyrgwm Colliery (MM163); Clydach Coal Level (MM264); British Colliery Pumping Engine House (MM216), and Trefil Quarries North (MM338). Of the 7 extraction related listed buildings only two, both listed grade II, were found to be directly related to ironworks' extraction, these were the Colliery Ventilation Furnace at Llandafal (15836), and the British Colliery Pumping Engine House (14869).

To increase the level of available baseline data across the Heads of the Valleys area the project utilised rapid mapping of extractive areas identified from the first edition OS map as a first step. In addition readily available data on the coal workings of the Cynon Valley was extracted from the Table of Mines (Davies/Godsall list) presented as an Appendix in the Cynon Valley History Society's publication Cynon Coal (Cynon Valley History Society 2001 Appendix A 199-244). The latter identified a further 66 interests, including levels, collieries, pits, patch workings, and drift workings.

The mapping of extractive areas identified from the 1st edition OS maps produced 156 digital polygon areas of varying sizes, of these 119 were further identified as being potentially related to ironworks due to proximity and tramroad/rail links. On further analysis 27 of the 119 were

found to have been lost in entirety to development (eg through opencast and urban/infrastructure development), though some 96 of the extractive areas were found to survive to an extent, whilst 45 extractive areas had areas, which potentially survived. Given the great disparity between the areas' sizes, analysis of the surviving resource was only made in relation to surviving physical area. Full details are available in the Year 4 report.

The analysis of cartographic, documentary and aerial photographic material in conjunction with a comparison of data on opencast land-take from the coal authority allowed a general overview of potential for area survival to be established. As the methodology employed a rapid review of recent large scale aerial photographic material rather than field survey it was only possible at this stage to use the existence of large features (ie tips) visible on aerial photographs as an indication of survival.

The following archaeological significance criteria was used through establishing associations with previously identified and protected extractive sites as follows:

- A: Surviving (with associated SAMs LBs) - High value
- B: Surviving (with associated NPRNs/PRNs) - Moderate-High value
- C: Surviving (without associated registers) - Low – High value
- U: Potentially Surviving (condition unestablished from AP search) - Unknown value
- D: Destroyed - No or limited value

Given that the methodological scope of the project it should be noted that the archaeological significance values assigned to each of the individual extractive areas were indicative at this stage and likely to be further revised as the project progresses. At this stage the results helped to establish known and potential significance and area survival, and thereby identified areas, which would repay further investigation.

The extent of survival, or potential survival, of ironworks extractive areas (based on comparison of recent aerial photographs and the areas of potential ironworks related extraction identified from the 1st edition OS mapping) has been worked out in terms of area and percentage survival of the original extractive area. An original baseline resource of around 4401.23 ha in total of ironworks related extractive land. Less than half of the original area of extractive land identifiable from the 1st edition OS as potentially being related to ironworks extraction was found to survive to the present day. The analysis of the data in relation to surviving and potential surviving extractive areas established that the surviving resource lay in the region of 1705.74 ha (comprising a total area of 1411.22 ha of surviving extractive land and 297.71 ha potential surviving extractive land), that is 38.81% of the overall original area resource.

The results indicated that despite some complete losses, a considerable area of potential iron working extractive landscapes survives within the study area. The majority potential ironworks related extractive areas retained between 25% and 100% of their original areas, landscapes, with a corresponding high incidence of 'A' and 'B' Category areas (reflecting incidence of protected and other identified related interests) in particular, adding to the potential significance of the resource.

The initial results indicated that sufficient potentially survives of the resource to allow an understanding of the ironworks' related extraction areas, a formerly important characteristic of

the industrial ironworks landscapes, and that further detailed documentary and field based work is required to confirm the full extent, condition and value of the surviving resource.

In an attempt to identify the most ‘coherent’, of the surviving ironworks extractive landscapes, and not necessarily the largest, the individual extractive areas were grouped together on a valley-by-valley basis, as used for water management features in year 3 of the project.

The project also assessed the maximum extent of survival of ironworks extractive landscapes in terms of area and percentage survival of the original extractive area resource on a valley-by-valley basis; this is presented in Table 6, below.

Table 6. Estimated valley area survival as a percentage of the original valley area resource identified from first edition OS maps categorised by extractive landscape based on combined extractive areas within valley groupings

Extractive Valley Landscape: Ironworks Number and Name	Extractive area on 1st edition OS map (Sq km)	Area surviving (Sq km)	Area potentially surviving (Sq km)	Total area surviving (Sq km)	Maximum percentage area surviving
Eastern Valley (Cwm Sychan and Cwm Ffrwd): IW002 Varteg; IW003 Golynos; IW004 British; IW005 Pentwyn	3.019	2.241	0.025	2.266	75.06%
Nant-y-glo and Ebbw fach: IW007 Blaina; IW008 Coalbrookvale; IW009 Nant-y-glo	6.850	3.532	0.134	3.666	53.52%
Beaufort and Ebbw Vale: IW010 Ebbw Vale; IW011 Victoria; IW012 Beaufort	5.437	0.973	0.233	1.206	22.18%
Sirhowy and Tredegar: IW013 Tredegar; IW014 Sirhowy	4.327	0.8479	0.8767	1.725	39.87%
Rhymney: IW015 Rhymney	6.959	1.654	0.276	1.930	27.74%
Cynon with the Dare and Aman: IW024 Hirwaun; IW025 Llwydcoed; IW026 Gadlys; IW027 Abernant; IW028 Aberaman	17.440	6.653	1.617	8.27	47.42%
Total area and overall maximum percentage area surviving	44.891	13.8339	3.1407	16.975	37.81%

A significant result was noted for the Eastern Valley (Cwm Sychan and Cwm Ffrwd); although the smallest of the extractive valley landscapes, this landscape was found to potentially retain over 75% of its original extractive area resource despite extensive opencast and land reclamation operations. Also of note was the Nant-y-glo and Ebbw fach system, which potentially retains over 53% of its original extractive resource, closely followed by the Cynon Valley with the Dare and Aman Valleys where over 47% of the original extractive area resource was found to potentially survive, whilst the Sirhowy and Tredegar area retaining almost 40% of its former valley extractive landscape.

To further refine above analysis of the extractive landscapes, the incidence of archaeological area significance (relating to extractive areas with levels of current protection and other known registers) was also analysed within these broader areas. The results of this analysis largely mirrors that of the landscape survival analysis; again the Eastern Valley (Cwm Sychan and Cwm Ffrwd) registers high, as does Sirhowy and Tredegar, both with 2 extractive areas of category 'A' having protected extractive related features, whilst Cynon with the Dare and Aman, returned the highest score for category 'B' and 'U' areas, around double those of the other areas. Apart from Cynon with the Dare and Aman, and Beaufort and Ebbw Vale all landscape areas have at least one extractive area belonging to category 'A'.

The level of available study or survey undertaken for extractive areas was found to be generally low with the exception of areas within and immediately adjacent to Merthyr Tydfil and Blaenavon, where for instance geographically limited but intensive survey work has been carried out by the Royal Commission on workings related to Llwydcoed, Cyfarthfa, Dowlais and Rhymney, in addition to Blaenavon and Varteg ironworks. It is highly likely that additional detailed survey would have similar results elsewhere within the study area and further detailed documentary work and targeted field survey has been recommended. Recommendations were also made for the production of detailed management, conservation and protection priorities, and the carrying out of topographic surveys and detailed recording.

5.5 *Introduction to the Year 5 Extraction Areas Based on Year 4*

Nant-y-glo and Ebbw-fach

This extractive landscape comprised extensive areas of workings around Bryn-mawr, the northwest of Nant-y-glo and Blaina including an area on the slopes of Mulfran, and to the east quarries on Mynydd Carn-y-cefn. A review of the first edition OS map in Year 4 allowed the identification of 19 extraction polygon areas mapped amounting to 6.850 sq km in total area. This extractive landscape served the ironworks of IW007 Blaina, IW008 Coalbrookvale, IW009 Nant-y-glo, (and was also linked to Beaufort in the next valley) and extended from Blaen Clydach in the north to Cwm-celyn in the south. A small scatter of quarries, collieries and other workings, which may not be primarily ironworks related, are located to the south in the Abertillery area. Part of the extractive has been lost to opencast, north west of Winchestown and to the east of Bryn mawr. Other areas have been lost to urban and industrial estate developments and a level of fragmentation has occurred to the extractive ironwork's landscape as a result.

From examination of aerial photographs and modern mapping it would appear that a potential total surviving extractive landscape area of 3.666 sq km, ie 53.52% of the original valley resource survives. This is made up of 27 surviving polygon areas (3.532 sq km), increased by 7 potentially surviving polygon areas (0.134 sq km). The most significant identified remains are to be found at Bryn-mawr Extractive Area (EA042), which includes the scheduled Clydach Coal Level (MM264), the extensive and well preserved workings of the Clydach Terrace, Gwaun-y-ffa, and Coedcaemawr, which includes early evidence of hushing, scouring, patchworking and other significant extractive remains, and the following areas, where known industrial extractive related features have been noted: Coedcae-tillery Colliery (EA079); Hafod Vane Colliery (EA126); Rose Heyworth Colliery (EA090); Swffryd-ganol Quarries (EA138); and Gwaelod-y-gelli quarries (EA068).

A provisional historic ironworks landscape of 6.099 sq km (taking in 5 polygon areas, or parts thereof) was identified and plotted on the basis of the results of the previous 4 years of the project augmented by the potential surviving extractive areas which can be demonstrated to be potentially closely associated with the best of the surviving core areas.

Beaufort and Ebbw Vale

A narrow linear extractive landscape with 24 polygon extractive areas was mapped from the evidence of the first edition OS map (amounting to 5.437 sq km in total area) during year 4 of the project. This area formerly extended in almost uninterrupted southwards down the Ebbw Valley from Blaen Clydach in the north. The main ironworks in the area are Ebbw Vale (IW010a, IW010b, and IW010c), Victoria (IW011), and Beaufort (IW012) ironworks, are all located within the northern half of the valley.

From the comparison of modern mapping and aerial photographic material carried out in year 4 it was noted that a considerable area of former extractive land had been lost to opencast to the east and west of Beaufort ironworks within the north of the area, elsewhere urban and industrial estate development has removed and fragmented the resource. A potential total surviving extractive area of 1.206 sq km, ie 22.18% of the original valley resource survives made up of 12 surviving polygon areas (0.973 sq km), increased by 3 potentially surviving polygon areas (0.233 sq km). From examination of aerial photographs and modern mapping it would appear that the physical connection of extractive landscape to the ironwork core areas has been largely severed

through the removal of much of the valley bottom core ironworks features, associated transport networks and extraction. Piecemeal linear fragments of extraction survive largely in isolation along the east facing flanks of Cefn Manmoel and the western side of Mynydd Carn-y-cefn. Perhaps, the most significant of the surviving areas is that part of the Bryn-mawr Extractive Area (EA042) which survives closest to Ebbw Vale ironworks; this formerly more extensive extractive area lies largely within adjacent valley landscape of Nant-y-glo and Ebbw Fach to the east, though extends down the eastern side of the upper Ebbw valley as far south as Ebbw Vale ironworks. Other extractive areas known to include relevant remains include: Troed-rhiw-clawdd quarries (EA085); Domen-fawr quarries, Victoria (EA071); Victoria Colliery and Quarries (EA065); and Bwlch-y-garn Pit (EA055).

A provisional historic ironworks landscape of 4.651 sq km (taking in 13 polygon areas, or parts thereof) was identified and plotted on the basis of the results of the previous 4 years of the project augmented by the potential surviving extractive areas which can be demonstrated to be potentially closely associated with the best of the surviving core areas, this has effectively excluded those areas south of Troed-rhiw-clawdd, including the listed but isolated colliery ventilation furnace (LB 15836), at Llandafal.

Sirhowy and Tredegar

A formerly compact extractive landscape, which supplied IW013 Tredegar and IW014 Sirhowy Ironworks; this extractive valley landscape is largely limited to the valley head east and west of Tredegar and Sirhowy comprising 4.327 sq km in total area (with 25 polygon areas mapped). The area extended from the Trefil Quarries at the north, taking in the extractive areas of Tafarnau Bach, Bryn-bach pit, and the Tredegar patches and quarries, as well as a few smaller workings to the south.

Major opencast and urban/industrial development adjacent to the Heads of the Valleys Road was found to have removed the bulk of the extractive landscape here, including almost all the Tredegar patch workings. In terms of surviving areas, identified through comparing modern mapping and aerial photographic material with the original identified resource during year 4, there area provided a potential total surviving extractive landscape area of 1.725 sq km, ie 39.87% of the original valley resource in 14 polygon areas (0.8479 sq km), increased by 11 potentially surviving polygon areas (0.8767 sq km).

From examination of aerial photographs and modern mapping the connection of the extractive landscape to the ironwork core areas had been severed, though the tramroad network connection to perhaps the most significant extractive landscape of the area, the quarries at Trefil (EA037), part of which are now scheduled (Trefil Quarries North SAM MM338), remains largely in place north of the Heads of the Valleys Road. This landscape area includes the Bedwellty pits area (EA077) at its southern boundary approximately 3km to the south of Tredegar Ironworks; whilst this area is not strictly ironworks related, it has been included on account of the importance of the scheduled extractive remains, Bedwellty Pits with its scheduled incline haulage winding engine (SAM MM181). Other extractive areas with noted extractive features include Tredegar Extractive Area (EA041), Dan-y-daren Quarry (EA102) and Rassa Quarry (EA040). The latter two areas as well as Trefil Quarry, Hollybush Colliery (EA114) and the Bedwellty Pits form the most extensive surviving extractive areas within the valley landscape. An area of surviving extractive landscape (28.55 hectares) to the east of Tredegar ironworks identified from aerial photographs, lies immediately adjacent and south of the Tredegar Extractive area, whilst not

appearing on the 1st edition OS map this has been included as it has the appearance of potentially being of early date.

A provisional historic ironworks landscape of 4.035 sq km (taking in 12 polygon areas, or parts thereof) was identified and plotted on the basis of the results of the previous 4 years of the project augmented by the potential surviving extractive areas which can be demonstrated to be potentially closely associated with the best of the surviving core areas.

6 Year Five Study Area Report

Geological background

A characteristic of the iron industry was that the sites of the ironworks were located as close as possible to their raw material resources. This stems from the need to minimise bulk transportation of fuel, and necessary ingredients: coal, iron ore or ironstone, and limestone. The Geology of the study area is Carboniferous, including Coal Measures (the Lower Coal Measures, Pennant Series), Millstone Grit, and to a lesser extent Carboniferous Limestone.

The Coal Measures with bands of grit, cut by a series of NW-SE faults, generally outcrop in the area south of the Heads of the Valleys Road (around Rhymney, Tredegar, and Ebbw Vale), from Beaufort, and at Nantyglo and Bryn-Mawr, the Coal Measures extend further north on to the southern flanks of Mynydd Llangattwg. To the south the higher strata, in the form of the ridges of Cefn Brithdir, Mynydd Bedwellty, Cefn Manmoel, Mynydd Carn-y-cefn and Mynydd James, comprise Pennant Grit of the Pennant Series. To the north of the Coal Measures and largely beyond the study area are Millstone Grits of the Farewell Rock formation and further north the Shale Group with Thin Coals, and Basal Grits with Quartz Conglomerate beyond. Carboniferous Limestone of the Upper Avonian sweeps in an undulating arc further north and east, though penetrates to south through the latter as far as Trefil, in the form of the Trefil Quarries, between Trefil-ddu and Trefil-las. Other limestone quarries lie to the east outside the study area within the Clydach Gorge. A basic description of the incidence of geological features in relation to the extractive areas visited during the course of this year's project is presented in the appendices.

Raw Materials

South Wales is known to have been an important centre of iron production since the sixteenth century, and during the late 18th and early 19th centuries was the leading iron producing region in the world. The industry was based on the exploitation of local 'mine' or iron ore won from the coal measures easily accessible along the northern rim of the South Wales coalfield, where seams were near horizontal and outcropped at the surface. Atkinson and Baber note that the 'extensive exposure of seams at the surface meant that cheap surface-mining of both coal and ironstone was possible during much of the prosperous period of iron smelting in South Wales' (Atkinson and Baber 1987). Of the three basic raw materials required for iron production, iron ore and coal were the most significant for determining the location of ironworks; limestone was the least significant as the process demanded relatively small amounts of the material. Within the northern outcrop area of South East Wales limestone suitable for use as flux in blast furnaces underlay the coal and ironstone seams and extraction by means of open quarry along the adjacent flanks of the Brecon Beacons, such as at Trefil and within the Clydach Gorge, was possible in relative close proximity to the furnaces (Atkinson and Baber 1987). Both coal and ironstone occur in horizontal or near horizontal seams, mostly interstratified, but occasionally, as with the Blackband ironstones, a notable feature of the Brynmawr Area, intermixed within the same seam.

In conjunction with the establishment of large-scale industrial enterprise from the mid-18th century extensive areas of manorial waste were exploited initially for accessible (largely surface and shallow) deposits of coal, iron and limestone using a variety of methods open cast, bell pit and level workings (Osborne, 1976, 37). The attraction to manorial waste is reflected by the location of the extractive areas identified and selected for the purpose of the current year's

project; the overriding majority of the visited extractive areas lie within open mountain, or along the margins of the enclosed land, within what is today predominantly open access land. A number of factors drew early industrialists to manorial wastelands; 'the form and scale of contemporary mining operations necessitated the unrestricted control of large blocks of land for the mining and processing of ores and fuels', whilst a single owner, the lord of the manor, simplified negotiations to access mineral rights, in addition industrial leases of wasteland were 'inexpensive, liberal and comprehensive' when compared with the compensation required to develop improved lands held in severalty (Osborne, 1976, 37-38). Atkinson and Baber discuss the vagaries of mineral lease arrangement in detail and the ways in which they developed over time; the terms and lengths of terms applied to leases, which usually involved a 'dead' or 'certain rent' and a royalty rate, indicate the lack of understanding that landlords generally had regarding the true value of their mineral holdings. These were frequently over favourable to their lessees; two of the examples cited relate to ironworks in the current year's study area: the Sirhowy Works in 1778 took out a lease of 40 years at an annual rent of £134.9.0, whilst Beaufort in 1779 negotiated a lease paying £130 per annum for the first year and a half, £406 thereafter plus 2s for each dozen of ironstone (doz. = 34 cwt of 120lb) for the term of 99 years (Atkinson and Baber 1987, 21-25).

Prior to the adoption of hot-blast technologies from the mid-19th century, the high carbon content of coal available along the northern coalfield rim of South Wales as opposed to elsewhere in Britain also proved to be an advantage: 'the carbon content of Welsh Coal exceeded 80% compared to 63% for Yorkshire, 61% for Derbyshire, 54% for Staffordshire and 35-40% for Scotland' (Atkinson and Baber 1987). This had the effect of reducing the amount of fuel required in the process, and thereby reducing cost.

The variety of iron ores, dependant on chemical variations and metal content, meant that some amount of ore has always been sourced from beyond the area; Red and brown haematites (limonite) in particular were of great importance to the South Wales Iron industry, though were not found in any great quantity in South Wales. The locally available sources of iron ore chiefly comprised Clay ironstone (20-37% metal when pure/20-32% metal as mined) and Blackband (17-30% metal when pure and as mined). The latter, discovered near Nantyglo in 1834, was initially processed at source by stacking in heaps and burning to remove impurities, prior to transferral to the furnace sites (Barber 1996; Jennings 1934).

The exploitation of local ironstone appears to have declined gradually as costs of mining the material increased, as shallow surface workings gave way to deep shaft mining by the latter half of the 19th century. It is known that imported ores chiefly from South West England and Cumbria had played a part in the South Wales iron industry from the early part of the 19th century, though a considerable increase in imported haematite ore occurred from the late 1830s and 1840s, corresponding with the heavy involvement of the South Wales iron industry with the rail trade, and the technological requirements demanded; a variety of irons of different qualities suited to different purposes were produced by varying mixes of ironstone, haematite and coke. By the mid-1850s the higher grade haematite ores had become cheaper than locally produced ironstone or Welsh Mine, in addition the higher wages of the burgeoning Welsh coal industry also acted to entice workers away from ironstone mining. A combination of technological requirements and price increases resulted in a decline in Welsh Mine or ironstone production by over two thirds between 1855 and 1860, which largely limited the local raw material base of the South Wales iron industry to coal (Atkinson and Baber 1987, 16-35). With the conversion during the 1860s from iron production to the acid steel industry, dependant on non-phosphoric

haematite ores, chiefly imported from Northern Spain from 1870s, the local ironstone industry further declined.

Methods of Extraction

Ironstone and coal extraction in South East Wales, as elsewhere, was initially characterised by shallow surface workings known as ‘patches’, a form of workings, which survived in use until 1860. The extraction was largely carried out by means of ‘scouring’, whereby a flow of water was used to wash out and/or process minerals. Open quarries, generally linear or curvilinear following the line of a seam or mineral surface outcrop were also commonly employed, again frequently in combination with scouring. Other types of workings have also been noted in the study area, ranging from adits to shallow shaft workings (eg crown pit and bell pit workings), and rakes. Shallow shaft workings were often found to lie at the edge of scoured and quarried areas, indicating a stratigraphy of mine working whereby initial concentrations of shallow pit workings, following a mineral seam are superseded by opencast quarries. Between the early and mid-19th century underground extraction methods generally employed level workings; these were driven into the slope, frequently chasing the mineral bearing strata exposed in the sides of scoured areas and opencast quarry workings. Deep shaft mining was a later development, largely post-1850, and in direct response to shortages in available surface mineral reserves.

The exploitation of mineral deposits depended heavily on the collection and deployment of water resources, with scouring figuring constantly until the mid-19th century in accounts of iron ore extraction. The use of scouring or ‘hushing’ to obtain minerals from shallow surface deposits has been demonstrated to date to at least the Roman, and possibly the Bronze Age (see Wakelin, 1996, 62). Documentary sources provide evidence that scouring was a common practice used in relation to iron ore extraction until at least the end of the 18th century. Lloyd quotes a case let to legal counsel in 1795, which refers to its ancient nature, ‘Scouring the Mine (by collecting Water and letting it down in large Quantities to carry off the earth and Rubbish) has been immemorially practised on these Commons, and anciently the ponds were much more numerous, but not so large as those used at present’ (Lloyd 1906, 37). The practice appears to have continued into the early decades of the 19th century, though by the mid-19th century was no longer encouraged with leases prescribing the use of ‘patch or scour in working the minerals’ (Osborne 1976, 41).

Scouring had several applications from use as a prospecting tool to expose mineral veins and seams, as a means of clearing overburden and also as a tool to break down the seams themselves (Rogers 1861; Cranstone 1994, 144-6; Hughes 1994, 49-50; Wakelin 1996; 62-67). It has been noted that scouring was particularly useful ‘for separating the dense ore nodules from clays and shales,’ and was ‘used to clean piles of previously dug ore from both surface workings and drift mines’ (Wakelin 1996, 63; Osborne 1976, 39). Frequent allusion is made to the dramatic and destructive effects that early iron ore extraction techniques had on the landscape; both the use of scouring and the associated method of patching, a primitive form of surface working, effectively reduced the viability of other traditional uses of the open common. Records note that adjacent areas of enclosed land were affected by run off and rendered boggy and useless, whilst long-term silting damaged the wider river systems of the area, and also resulted in increased instances of flooding (Wakelin 1996, 63; Osborne 1976, 39).

Documentary evidence indicates that the most extensive damage was caused as a result of processing the ore itself as opposed to simply stripping overlying cover and overburden; the

mines were scoured after they had been dug, which made the ore 'less expensive in carriage and cleaner for the furnaces'.

In general, the processing of ironstone appears to have been a lengthy process. On extraction from quarries, pits, levels and shafts, the ironstone would have required initial processing to allow the removal of clay and waste material, this is known to have been achieved by stacking into piles to allow weathering to occur, possibly over winter to benefit from the action of frost and rain. The use of scouring at this stage was no doubt used as a means of accelerating this process. The stones and nodules were then picked out by hand, often child and female labour was used. Documentary evidence indicates that ironstone was stacked and sold in "dozens", a rectangular pile approximately a yard in width by 3 yards in length and 22 inches high, each pile roughly equivalent to 4 and ½ tons. It has been estimated that a bell-pit of about 30ft in depth would have provided between 12 and 16 dozens or 55-72 tons of ironstone (Willies 1997, 9). The next stage in the process was calcining to remove water and reduce carbonates to oxide, which resulted in a 25-30% reduction in weight. This involved heaping ironstone nodules and burning with layers of coal slack and was frequently done at the extractive site itself, as coal was also usually available, though in some cases within calcining kilns located close to the ironworks themselves. The following method is described: a layer of coal 6-8 inches thick is placed on level ground, on top of which was placed a stack up to two feet in depth of evenly sized ironstone pieces. The top of the heap was levelled with smaller ironstone pieces and a further two inches of smaller coals. Additional ironstone was placed to form a wedge-shaped heap and the whole covered with further coal. The resultant heap was typically about 7 ft high and between 15 and 20ft in length. After burning and cooling a heap of porous ore suitable for the furnace was the result (Willies 1997, 9). The process of obtaining furnace ready ore from the 'Black band' appears to have been similar, with stacking and burning of the extracted raw material taking place, though there was apparently no need to scour the iron ore as the material comprised a thin seam of fine iron ore within a fine matrix of grit and partially pulverised coal, suitable for immediate firing (Lloyd 1906, 188).

It should be noted that the sites associated with iron ore processing are now obscured by vegetation, often dense and therefore are allusive and difficult to identify on the ground. Further intensive fieldwork and analysis of spoil and ground surfaces would be required to allow the identification of remains associated with this process on the ground. In all likelihood only the final stages of this process would then be identifiable, as quarrying and mining are dynamic destructive processes.

Introduction

The current year's study was limited to a reduced study area comprising the Upper Sirhowy, Ebbw and Ebbw Fach valleys and the watershed to the north of the Sirhowy Valley around Trefil. A total of 57 of the 156 extractive areas, which had been identified as potentially associated with ironworks from OS mapping in Year 4, were located within the reduced study area; 20 of these areas were considered to be surviving and/or potentially surviving landscapes. Following the preliminary site visits to all 20 of these areas to assess practicalities of access and confirm survival, 19 areas were selected for detailed walk over survey and further assessment. This also resulted in the expansion of the area boundaries in a few cases. For this reason the boundaries and areas have been revised and now supersede those mapped for the previous year.

The fieldwork carried out during year 5, in combination with a review of cartographic and aerial photographic material, has allowed the work carried out during previous years to be refined for discrete extractive areas, considered to represent some of the best surviving examples within the Blaenau-Gwent UA, specifically within the Nant-y-glo and Ebbw fach, Beaufort and Ebbw Vale, and the Sirhowy and Tredegar valley areas. A total of 19 extractive areas were described in detail, divided into 42 sub-areas of surviving extraction with information given on subsidiary features, with some 149 major extractive features and groups of extractive features (eg areas of crown pits, areas of tips, etc), recorded as a result with condition assessed, and proformas completed. In addition to those extraction features identified during Year 4 from cartographic sources, 24 features were newly identified as a result of the walkover survey and aerial photographic review carried out during year 5. Of the above 149 interests, 45 were allocated individual numbers in their own right and these are described in more detail within the gazetteer (see appendix I).

In addition the fieldwork also allowed further identification and description of water management features, with some 78 water management features (reservoirs, ponds, and leats visited, described and assessed).

Table 7. Extractive Areas visited during Year 5

Year 4 Area Number	Year 4/5 Sub-Area Number	Area Name	Type
EA041.03	EA041.03	Tips at Bryn-serth reservoirs	Tips
EA042.01	EA042.01.04	Quarry above Ebbw Vale Iron Works	Quarry
	EA042.01.05	Quarry above Ebbw Vale Iron Works	Quarry and tips
	EA042.01.06	Quarries and scouring above Ebbw Vale Iron Works	Patchworkings
	EA042.01.09	Small quarries, above Ebbw Vale Iron Works	Patchworkings?
	EA042.01.10	Shallow workings, agricultural settlement and field system, above Ebbw Vale Iron Works	Field system and agricultural settlement?
EA042.02	EA042.02.02	Tips and opencast trenches, Winchestown	Tips and workings
	EA042.02.07	Truncated workings, west Monmouth Golf Course	Quarry
EA042.03	EA042.03.01	Patchworking and tips, Bryn-mawr	Patchworking, tips
EA042.05	EA042.05.03	Opencast trenches, Twyn Blaenant	Tips and workings
EA042.06	EA042.06.03	Quarrying, tips and scouring, Bryn-mawr north	Quarry, tips and scouring
	EA042.06.06	Quarrying, tips and the Nant-melyn farmstead	Quarries and tips
EA042.07	EA042.07.02	Coal and Ironstone workings, Bryn-mawr	Quarry and tips
EA042.08	EA042.08.01	Quarrying and tips, Bryn-mawr	Quarries, tips
EA042.09	EA042.09.02	Workings and linear lobed tips, Bryn-mawr north	Tips and Workings

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	EA042.09.03	Redvein Level, Bryn-mawr north	Level
	EA042.09.04	Coal level, Bryn-mawr north	Level
	EA042.09.05	Linear lobed tips, Bryn-mawr north	Tips
	EA042.09.06	Opencast trench, Bryn-mawr north	Opencast workings
	EA042.09.07	Workings and linear lobed tips, Bryn-mawr north	Workings and tips
	EA042.09.08	Tips, Bryn-mawr north	Tips
	EA042.09.09	Linear opencast trench and associated tips, Bryn-mawr north	Workings and tips
	EA042.09.10	Linear opencast trench and tips, possible levels, Bryn-mawr north	Workings and tips
	EA042.09.11	Area of leats and hushing leats, Bryn-mawr north	Earthworks and leats
	EA042.09.12	Quarrying, pits and tips, Bryn-mawr north	Quarries and tips
	EA042.09.13	Shallow workings including crown-pit, rake and level workings, Bryn-mawr north	Workings
	EA042.09.15	Scoured landscape with major scouring reservoir embankment, tips, quarry face and adits, Bryn-mawr north	Workings: scouring reservoir, scouring channels, hushing leats linear tips, adits/levels, quarry face, remains of internal tramroad
	EA042.09.32	Pont ar Lwnc extractive area	Quarry
	EA042.09.34	Tips northwest of enlarged Blaen Clydach Reservoir	Tips
	EA042.09.36	Area with hushing leats associated with workings within trench EA042.09.06	Hushing system
	EA042.09.38	Area of less intensive pitting, Bryn-mawr north	Pits
	EA042.09.40	Elevated area of small-scale shallow workings	Shallow surface workings including crown-pit workings
EA042.10	EA042.10	Finger tips, Brynmawr west	Tips
EA057.02	EA057.02	Mountain Air Quarry	Quarry
EA061.02	EA061.02	Quarry at Scotch Peter's Reservoir	Quarry
EA061.03	EA061.03	Quarry at Scotch Peter's Reservoir	Quarry
EA066.02	EA066.02	Old Quarry, Cefn-goleu	Quarry
EA066.03	EA066.03	Cefn-goleu south	Quarry
EA066.04	EA066.04	Workings at Cefn-goleu	Quarries and tips
EA066.07	EA066.07	Surface workings, Cefn-goleu	Extractive workings
EA071.03	EA071.03	Quarry at Domen-fawr	Quarry
EA085.07	EA085.07	Quarries, Troed-rhiw-clawdd	Quarry

For the 19 extractive areas visited during fieldwork area by area summary descriptions are presented in section 6.1, below, with a gazetteer of sites identified and visited for the purpose of

the current year's project given in the appendices. Summary descriptions of the water management systems visited are given on a sub-system basis (see section 6.2, below) again with further details of individual elements/features presented in gazetteer form in the appendices.

6.1 *Extractive Areas Visited During Year 5 Fieldwork*

Bryn-serth (see figure 2)

Extractive landscape: EA041.03

EA041.03 Archaeological significance: C

These two lengths of fingertips (at NGR SO1509610827) are the only surviving elements of an originally far larger extractive landscape, of which these formed only the south fringe. The area, also known as Gwaun-y-Pound was part of the extensive mineral tracts leased to the Sirhowy Ironworks, confirmed by an indenture of 1788⁸. The area of workings is shown in detail by the 1st edition OS map (1880), which depicts opencast quarries and associated tips, along with ironworks-related water management features: the Waun-y-Pound reservoirs IWW240, IWW241, and IWW244, and their associated leat system, IWW250, IWW251 and IWW252. Following opencast and reclamation operations carried out during the 20th century in the area immediately to the north, east and west only two linear areas of lobed tips and the Waun-y-Pound water management features now survive in isolation. The tips are ranged along the northwest side of reservoir IWW240: that to the southeast is a long, broad finger orientated northeast-southwest, lobed on both sides; the one further to the north comprises long, narrower fingers. The tips show signs of erosion with deep scars, damage largely the result of off-road motor biking.

⁸ Maybury 1, 232

Winchestown (see figure 3)

Extractive landscape: EA042.02.02 (including EA042.02.01, EA042.02.04, EA042.02.05, and EA043.02.04)

EA042.02.02, archaeological significance: C

This is a surviving area of extraction, a fragment of the much larger area of extractive activity depicted on the 1st edition OS map (1880), which depicts a ranked series of parallel opencast workings on the Elled coal crop which extended around the slopes of the northern end of the Bwlch y Garn/Mynydd Carn-y-cefn ridge at Llwydcoed above Beaufort. A documentary reference of 1799⁹ to the colliery at Llwydcoed then under the proprietorship of Richard S Harford indicates that the workings formed part of the mineral property associated with Ebbw Vale Ironworks. The area to the north and west has been lost to 20th century opencasting and reclamation, while a golf course now borders the area to the south. The surviving extraction consists primarily of a series of open extractive trenches, or patch workings cut into the northeast facing slopes, with associated tips; the trenches are aligned approximately east-west and face roughly north. Evidence for the scouring of the quarry faces survives; a series of three or four channels runs above the face of the lower trench, parallel with the edge, with scours running laterally towards the quarry face. These scours can be followed over the edge of the quarry faces and are associated with embayed banked depressions at the foot of the quarry faces. Pit like features were also noted at the base of the working face below the scours; these are generally defined by opposite, inward-curving banks with sloping entranceways between the associated flanking tips (see below for examples). The tips associated with the main extractive faces lie down slope to the northeast in amorphous mounds with some fingertips. A possible curvilinear water channel is embanked against the southeast side of one of the fingertips, defined by banks *c.*0.6m high, 2.5m wide at the base, and *c.*1m wide at the top, with a gap, possibly, an entrance, on the southeast side. Further linear depressions, possibly water channels, are also visible in the area; one example measures *c.*3m long by 1m wide.

Above the face of the lower open quarry trench the concrete footings of a rectangular structure, *c.*3.5m by 4.1m, were noted. This has tentatively been identified as the remains of a weighbridge associated with 20th century opencast/reclamation works.

In addition to the main faces of the opencast trenches, several shafts and pits are located along the floor of the lower trench, and the entire area has the appearance of having been extensively dug over. The shafts, some of which are now flooded, are typically surrounded by spoil and have sloping entrances; these may represent the remains of shaft mound workings or crown pit workings. Possible collapsed underground workings were noted in the area, as were numerous shallow depressions, which could be remains of pits associated with surface diggings for coal dating to the first half of 20th century. The intensity of extraction in the area and the poor condition of the surviving remains makes interpretation difficult, without further intensive survey.

EA042.02.04 and EA042.02.05, archaeological significance: C

Three levels were noted within the area, two of which (EA042.02.04 and EA042.02.05) are depicted on 1st edition OS maps (1880) and appear to have exploited the Elled coal seam. The west facing entrance of the old level (coal), EA042.02.04, has collapsed or been infilled, however, the entrance cut remains bounded to either side by parallel tips. To northeast down

⁹ Maybury 2: 3924.

slope is another old level (coal), EA042.02.05, the sunken linear entrance (c.0.75-1m deep) of which now survives as a drain. A further possible level entrance on a similar alignment with an associated spoil tip was noted to further to the northwest.

EA042.02.01, archaeological significance: C

The area appears to have been served by a length of tramroad, EA042.02.01, which is depicted on the 1st edition OS map (1880) entering the area from the east, turning northwest, and entering a tunnel. This appears to have fallen out of use by the 2nd edition OS map (1901). The line of this tramroad has been fossilised, although little of the formation is visible, and it may be that none of the modern track is original.

To the north side of the line is a length of roughly coursed drystone walling which survives to a height of six or seven courses. The tunnel entrance depicted on the 1st edition OS map (1880) has now collapsed and been infilled, but is over 1m deep and is splayed to 2-3m wide at the base.

The 1st edition map also shows a reservoir (IWW482), which may originally have been used as a holding pond for a scouring system. Tips, however, now occupy this area and the reservoir has been destroyed.

EA043.02.04, archaeological significance: B

To the north of the Winchestown area are two lengths of tramroad (EA043.02.04) depicted on the 1st edition OS map (1880), on a roughly east-west alignment. The northern of the tramroads parallels the line of the Merthyr, Tredegar and Abergavenny branch of the London and North Western Railway, and continues west towards Beaufort Iron Works. A modern path/cycle route preserves the route of the tramroad and the LNWR section. The south section forms part of the surviving tramroad recorded during year 2 work (2006) of the project as IWT004 Clydach Tramroad (see GGAT Report no. 2006/013). An attempt to protect the remains, chiefly stone blocks, with a geotextile membrane under a layer of gravel, has been largely successful, though recent water disturbance to the membrane cover adjacent to the dam of reservoir IWW466 was noted at the time of the fieldwork.

Table 8. Subsidiary point and polyline features within EA042.02.02

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.02.02	Scouring embayments	SO1805510842 (6.4m accuracy)
Under EA042.02.02	Area of pits against quarry face with associated tips	SO1803710866 (8.7m accuracy)
Under EA042.02.02	Pit (example)	SO1802410869
Under EA042.02.02	Pit (example)	SO1800210876 (5.7m accuracy)
Under EA042.02.02	Scouring channels	SO1795210861 (5m accuracy)
Under EA042.02.02	Embanked feature	SO1819410821 (6.3m accuracy)
Under EA042.02.02	2 shafts	SO1813910814
Under EA042.02.02	Sub-circular depression	SO1806610846 (6.8m accuracy)
Under EA042.02.02	Area of pitting	SO1804610667 (5.6m accuracy)
Under EA042.02.02	Concrete structure	SO1805510713 (3.7m accuracy)
Under EA042.02.02	Possible level and associated spoil tip	SO1819310713 (6.3m accuracy)
EA042.02.01	Tramroad	SO1820510889 SO1862710988
EA042.02.04	Level	SO1825510735
EA042.02.05	Level	SO1849110865

Area above Ebbw Vale Iron Works (see figure 3)

Transitional industrial/agricultural landscape: EA042.01.10 (including EA042.01.12, EA042.01.13, EA042.01.14 and EA042.01.15)

The extractive landscape above Ebbw Vale on the west facing slopes of Bwlch y Garn/Mynydd Carn-y-cefn ridge, is a fragment of the much larger area of extractive activity depicted on the 1st edition OS map (1880), shown as a ranked series of parallel opencast workings on the Elled coal crop and grits, which extended around the slopes of the northern end of the ridge at Llwydcoed above Beaufort, and follow the mineral crop south as far as Ebbw Vale. Cartographic evidence of 1816 (NLW MAP 7459 134/1/38) indicates the adjacent enclosed land to the south and west formed part of the mineral property of ‘Messrs. Harfords, Crocker, & Co.’, which indicates that the workings in this area are likely to have formed part of the mineral property associated with the nearby Ebbw Vale Ironworks, established in 1790. The area to the north and west has been lost to 20th century opencasting and reclamation, and a golf course now also borders the area to the north.

EA042.01.10, archaeological significance: A?

This area appears to have been subject to small-scale extraction, with small areas of shallow workings (shallow pits and quarrying), and small associated tips, probably prospective in nature. This extractive activity is not depicted on the 1st edition OS map (1880); this is, however, unsurprising given the small-scale nature of the remains. It is also highly likely that the workings here relate to the occupation of nearby settlement features, which could on typological grounds date to the 18th century, if not earlier.

EA042.01.14, archaeological significance: B

Cut into the west-facing slopes is a row of three small quarry scoops, (EA042.01.14) two of which are interconnected, with an embanked north-south trackway to the west, possibly a barrow-run. There is also a possible trial adit; a west-facing linear cut with an exposed quarry face in a depression at its head measuring 5m by 5m, though there is no evidence for a portal. The interior of the depression is strewn with stone blocks, and there is a drystone bank (3.2m long by 1.5m wide) bounding the cut on its west side. The associated tips lie to the north and west of the cut. A group of three small pits has also been dug into the slope, with the associated spoil forming an arc on the down slope side, and there are small patches of shallow workings, and small quarry scoops, as well as areas of dug and disturbed ground distributed through the area.

There is also evidence of scouring activity in this area. A substantial ditch with a large stone-faced earth bank on its south side runs roughly east-west, and may have served as a scouring channel as well as a field boundary (see below). Numerous other leats cross the area, several run generally north-south, contouring the slope, one of which has a bank on the west side. One, IWW921, runs just to the north of the main scour/boundary ditch and bank, running parallel with it before doglegging to the north. The extensive system of leats and water channels on these slopes may be associated not only with scouring activity here, but may also be part of the major “Long Pond” water management system to the southwest.

EA042.01.12, archaeological significance: U

An area quarried into the slope (possibly at the site of an outcrop) with a bank of spoil, provides a sub-rectangular platform area, maximum c.7m (E-W) by c.12m (N-S), roughly aligned north-south. At the northern extent of the platform are the remains of a rectangular sunken stone-lined

feature, 2.5m by 3.4m, sunk by 0.4m. The interior of the feature is lined with drystone walling, now partly tumbled, which survives to four courses. A bank, 2m long, extends south from the sunken feature, down slope to the main area of the platform. The exact function of the feature is unknown, the most likely candidate is as a small shelter or store, however given the context it could equally be industrial as agricultural.

EA042.01.13 and EA042.01.15, archaeological significance: A?

The dominant characteristic of the area is the settlement and agricultural element; however, there are two settlements (EA042.01.13 and EA042.01.15), and the remains of an associated field system, including boundary banks. The northern of the two settlement features is a substantial house platform (Platform House EA042.01.13), 18.5m N-S by 26.3m to 28.4m E-W, comprising of two level areas cut into the slope, divided by a north-south track. The upper platform is semi-circular, with a bank forming a “hood” above the cut. The track running between the two platforms may post-date the feature, though could be part of the original structure, perhaps on the line of a cross-passage. The later drystone wall bounding the enclosed land just to the south cuts the path. There is a spread of stone material below the lower platform, and a number of small clearance cairns were noted in association.

To the south, beyond the drystone boundary wall, are two adjacent long huts (EA042.01.15). The structures are aligned roughly east north east by west south west, defined by banks on slightly elevated platforms cut into the slope. The hut to the south, c.14.3m long by c.6m is set on a slightly higher platform, and the entrance is in the northwest corner, and has a pronounced upper-scarp. The northern hut is c.13.1m by c.6.1m and also has the entrance in the northwest corner. A track runs immediately to the west of these structures, cutting the platform on which the southern hut sits, and cutting the banks of the northern hut, dividing the structure roughly in half. Up slope of these huts is a small scoop in the hillside, possibly an industrial feature.

Associated with this settlement are the remains of an extensive field system. The boundaries of the system are mostly cloddiau-type; drystone banks and stone-faced banks and associated ditches, along with some tumbled walls. Of these, the most strongly defined is the east-west boundary ditch with the bank on its south side, which likely also functioned as a scour, and contains a lot of debris and stone blocks in its base. This is part of a large network of linear features; including revetted embankments and stone banks, and it is cut by a curvilinear embanked stone feature, and, at its east end meets a stone wall faced with large stones and a rubble core, with an associated bank and ditch on its southeast side, forming a substantial boundary. The curvilinear bank is 0.7m wide at the top and 0.5m high from the base of the ditch which is on its southeast side. This large boundary is cut at its northeast end by the tramroad EA042.01.07. Just to the north of the main east-west boundary is an enclosure, possibly a stock enclosure, with substantial curvilinear banks and an in-turned, curving, south-facing entrance. South of this, straddling the main east-west cloddiau boundary is a large area of ridge and furrow. A sunken linear feature (either a sunken track/hollow way, or water channel/lead) runs diagonally northnortheast – southsouthwest from the cloddiau boundary along the eastern edge of the area of ridge and furrow towards the northeast angle of the drystone wall, which marks the current extent of the enclosed land. This sunken linear feature then continues south beyond the wall to run immediately west, and down slope, of two platform houses (EA042.01.15), respecting these features. It continues as far as to the drystone wall boundary to the south, and immediately north of this turns at an angle to follow the boundary down slope, to eventually run over the break of slope and finally join with a north-south lead feeding into the water management system associated with Ebbw Vale. This feature, which may have begun life as an

access route or hollow way, appears to have acted as a (?seasonal) drain directing water into the water management system during the winter.

Table 9. Subsidiary point and polyline features within EA042.01.10

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.01.10	Group of three pits and associated spoil	SO1765309937 (6.6m accuracy)
Under EA042.01.10	Area of disturbed ground	SO1778809862 (8.5m accuracy)
Under EA042.01.10	Leat, N-S curvilinear bank and ditch	SO1764509919 (6.7m accuracy)
Under EA042.01.10	Area of diggings	SO1764509919 (area)
Under EA042.01.10	Leat, N-S ditch, bank on west side	SO1777309912 (7.8m accuracy)
Under EA042.01.10	Leat, E-W, doglegs N-S	SO1776009881 (6.3m accuracy)
Under EA042.01.10	Embanked curvilinear stone feature	SO1769709898 (6.4m accuracy)
Under EA042.01.10	Wall, bank, and ditch field boundary	SO1780809829 (5.8m accuracy)
Under EA042.01.10	Revetted linear embankment, trackway or boundary	SO1768910005 (5.4m accuracy)
Under EA042.01.10	Junction between linear feature above and stone bank	SO1768909947 (8m accuracy)
Under EA042.01.10	Possible stock enclosure of curvilinear banks	SO1779409855
Under EA042.01.10	Sunken linear feature (leat/hollow way)	SO1781209827 to SO1770109580
EA042.01.12	Sunken feature and platform	SO1774009878
EA042.01.13	Platform house	SO1769509751
EA042.01.14	Quarry scoops	SO1767509810
EA042.01.15	Pair of long huts	SO1774309653

Table 10. Water management features within EA042.01.10

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW622	Leat System, Ebbw Vale	Leat system	From SO1749209355 to SO1781210094
IWW921	Dogleg leat above Ebbw Vale	Leat	From SO1774109853 to SO1778710066

Extractive landscape: EA042.01.04, EA042.01.05, EA042.01.06, EA042.01.09, and EA042.02.07 (including EA042.01.07)

Historic mapping allows some, if limited insight into the phases of extraction and industrial development of this area. The area appears to represent, at least initially, a phase of transitional agri-industrial activity closely associated with the occupation of platform house settlements. The earliest industrial activity appears to have been small scale, consisting small scoops, and quarry workings on areas of outcrop exposure (see EA042.01.09), and trial workings (again small scoops and pits) into the slope (within EA042.01.09 and the adjacent EA042.01.10, see above). This is followed by crown pit workings and opencast trenches/linear quarries using scouring and hushing to clear and process the ironstone (see areas EA042.01.04, EA042.01.05 and EA042.01.06). The greater part of the scouring activity in the area is likely to have ceased by the time of the construction of the tramroad EA042.01.07 to Bwlch-y-Garn pit and the Red Ash Levels (1st edition OS 1880), as the tramroad's embankments cross the line of former scour within area EA042.01.06. The tramroad cuttings also interrupt a number of hushing leats; however, the existence of possible aqueducts over the tramroad cutting suggests the leats continued in operation for water management.

EA042.01.06, archaeological significance: A?/B

This area forms a plateau which stands proud of the surrounding land, defined at its west edge by very steep slopes, which are the original working faces of an opencast cutting. The latter still retain areas of exposed ironstone outcrop, and shallow pits and crown pit workings. Curvilinear scouring channels are visible on the quarried face, associated with leats and channels which survive on the plateau, and there is further evidence of small-scale working above the main face in the form of small pits and a substantial quarry cutting, aligned east-west, with scours over the faces forming curvilinear banks, and an area of associated tips lying to the west.

Mounds of scoured material (clay and shale spoil) and quarry waste remain visible at the foot of the scoured quarry faces. The hushing leats for this quarry, and the main north-south face, can be seen crossing the plateau and contouring the slope. Some of the leats here are very substantial, and an impressive series of parallel leats survives above the working face. An example flows north-south towards the quarry face from the south, turns north-north-west and forms a scour down the face of the quarry. Another leat, IWW920, can be seen further up the plateau; as it contours the slope, the line of this feature is interrupted in two places by a cutting of the tramroad EA042.01.07. The leats in the area characteristically converge at the edge of the quarry face to form scours. A number of the leats appear to have been blocked; and retain the remains of banks used to control and alter the direction of flow of water to different areas along the quarry face. One ephemeral example, 0.5-0.6m deep, aligned north-northwest, retained a slight bank on its west side. In addition to scouring these leats may also had an ironworks water management and supply function, supplying the nearby Ebbw Vale system.

There are further areas of small pits and quarries above the quarry face of the main trench, elsewhere is a row of three discrete quarry scoops cut into the slope, with low grassed-over tips on the down slope side, possibly relating to prospecting activities.

Extractive activity in this area depicted on the 1st edition (1880) OS map is limited to a small area of tips (EA042.01.05) and the long quarry face (EA042.01.04) (see below) to the southeast, there is no extractive activity depicted on the plateau itself. A quarry face is shown further west of the area, and there appear to be large areas of tips beyond that. Tramroad EA042.01.07 is shown on the east side of the area on the 1st edition, running north into the heavily extractive landscape beyond, and the lines of several of the leats are depicted being interrupted by cuttings.

By the 2nd edition OS map (1901) the trench face has been cut back as far as its current location, with areas of fan tips depicted in the area below the working face. It seems that the line of the quarry face depicted here represents the steep high slope that survives as the west edge of EA042.01.06.

EA042.02.07, archaeological significance: C/D

This is a partly reclaimed/landscaped rectangular area of relatively late opencast trench workings formerly characterised by closely spaced flat-topped parallel tips, which survive at its northeast end. The workings are first depicted on the 2nd edition OS map (1901), and named as Buff Clay Patch, at which date a north-south aligned quarry face is shown being worked in an easterly direction. The quarry face is located at a point half way along the final extent of the area at this date. Two short tramway branches are shown linked to the face, for the purpose of taking way waste material to the parallel tips to the west; the southern of the two branches is shown linked by an access tramway/inclines (now lost to reclamation) to Ebbw Vale Blast Furnaces and beyond.

By the 3rd edition OS (1920) the workings are shown disused and are at their maximum extent, the access tramway is described as 'old', and the rails lifted. The West Monmouth Golf Course, to the southeast, is also in place by this date, located above the area of former patchworkings.

Despite the construction of the golf course, features associated with the workings remain visible in the landscaped area, for example a number of leats, and possible scours remain. The section of the trench face adjacent to the golf course has and continues to suffer from severe erosion.

EA042.01.04, archaeological significance: A?/B

Southeast of this, detached from the main extractive plateau, a long (c.200m) linear ironstone quarry (EA042.01.04) depicted on the 1st edition OS map (1880) survives. This quarry extends north-south with the quarry face, up to 3m high in some places, facing west with an embayment at the north end, and waste material, including shale, at the foot. The associated waste tips lie to the west; these are small and generally amorphous. A leat parallel with and along the top of the quarry face with a number of lateral hushing channels extending towards the quarry face, were noted. This quarry, which lies immediately below the drystone boundary wall of the enclosed land, is cut by tramroad EA042.01.07, effectively separating the working face from the tips to the west.

EA042.01.09, archaeological significance: A?/B

To the northeast of the long continuous face EA042.01.04, is a discrete area of small-scale outcrop workings, surrounded by loose rock and scree (EA042.01.09), an extension of the ironstone bearing outcrop exploited in EA042.01.04. This group comprises small-scale quarries characterised by small pits and scoops (approx. 1.5m in diameter) set against the outcrop, associated with quantities of loose stone, quarry waste and scree. The tips here appear to include piles of graded stone. Level areas, generally c. 10m by 2m, close to the working faces may have defined possible processing areas and may have contained rudimentary shelters. One level platform c.4m by c.3m located at the foot of the quarry face was defined by spoil tips to either side.

A series of depressions were noted cut into the upper slope of the north eastern outcrop. Some of the depressions had been enhanced by drystone walling. Possible interpretations include shooting butts or workmen's shelters. As with the longer quarry face, these smaller areas may have been scoured, a leat flows towards the quarry area from the boggy area to the northeast.

EA042.01.05, archaeological significance: A?/B

Adjoining the area of agricultural activity, just to the north of the long quarry face, is an area of fan tips with a possible adit entrance and quarry face. The associated tips are generally lobed, short and stubby, and are depicted on the 1st edition OS maps (1880). Tramroad EA042.01.07 cuts through this area, and there is a stone-revetted rectangular platform c.11m by 3-4m and c.0.7m high on the east side of the line, which is likely associated with the later tramroad rather than with the earlier extractive activity which took place here. A vertically set iron pipe is located at the centre of the platform feature.

EA042.01.07, archaeological significance: A?/B

Tramroad EA042.01.07, depicted on the 1st edition OS maps (1880), runs north-south along the east edge of the area, serving Bwlch-y-Garn pit and Redash levels to the south. The formation of the tramroad, which is used as a track for part of its length, survives in good condition through the area, embanked at points along its length, with a number of cuttings, one of which cuts twice through the course of hushing leat (IWW920), at SO1773310155 and SO1768410233. This indicates that the construction of the tramroad is likely to post-date the use of scouring in the area, though the continuation of the leat as a dashed line over the tramroad suggests that an aqueduct was constructed to carrying the leat over. This would suggest some continued use of the leat system in the area. The line of the tramroad also cuts the main east-west cloddiau and ditch boundary, which defined an area of former encroachment on to the common waste. A leat, c.1m wide and stone-faced on both sides, with a bank on the down slope side 0.5m high and 0.7m wide at the top, runs parallel to the tramroad for part of its length on the up slope side.

Table 11. Subsidiary point and polyline features within EA042.01.04, EA042.01.05, EA042.01.06, EA042.01.07 and EA042.01.09

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.01.06	Network of leats	SO1770710159 (8.1m accuracy) (centre of system)
Under EA042.01.06	Scour for quarry cutting	SO1773310155 (8.9m accuracy)
Under EA042.01.06	Confluence of two leats forming head of scour	SO1768410222 (5.4m accuracy)
Under EA042.01.06	Head of scour of quarry	SO1775210067 (7.9m accuracy)
Under EA042.01.06	U-shaped depression and spoil	SO1773810135 (5.2m accuracy)
Under EA042.01.06	Cutting for tramroad through bank with leat	SO1773310155 (5.4m accuracy)
Under EA042.01.09	Leat flowing NNW	SO1793509852 (5.3m accuracy)
EA042.01.07	Tramroad	SO1764309502 to SO1782410329
Under EA042.01.07	Stone-revetted rectangular trackside platform	SO1782909813 (5.8m accuracy)

Table 12. Water management features within EA042.01.06 and EA042.02.07

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW622	Leat System, Ebbw Vale	Leat system	From SO1749209355 to SO1781210094
IWW920	Leat cut by Buff Clay Patch	Leat	From SO1768210150 to SO1783210321

Brynmawr (see figure 4)

Extractive landscape above Clydach Dingle: EA042.08.01 and EA042.08.06

EA042.08.01, archaeological significance: C

The area above the modern A465 Heads of the Valleys Road survives as a narrow strip on the steep slopes overlooking the River Clydach. It is a small remnant of an originally much larger extractive landscape depicted on the 1st edition OS maps (1880) part of the extensive mineral lease of the Nant-y-glo Ironworks which extended south and north, originally connecting this area to the large extractive landscape further north (Clydach Terrace area; EA042.09). The area to the south has been reclaimed, and the construction of the modern road to the north has severed this area from the larger, better preserved surviving landscape on its other side.

The predominant feature of the area is the long east-west quarry face above the tramroad, with the associated tips lying below, only some of which appear to survive, and which have been flattened, possibly in an attempt to make them safe to allow the construction of the road. Sections of the quarry face survive, and it appears to have been scoured, channels are visible flowing down the working face. One area of scouring consists of a large central scour, with subsidiary channels to either side, whilst a small tip of scoured waste survives at the base. A low bank c.1m in width cuts this area off from the tramroad (EA042.08.06), possibly to prevent the line being flooded by scouring water. There is a small cutting, and a possible siding for the tramroad along this part of its length. The tips can be seen extending to the west below the tramroad, and the top of a group of fingertips at one point forms a flat shelf in the slope. A level in the quarry face is depicted on the 1st edition map, but was not located on the ground, despite attempts being made, and it may be that this fell within the land upslope which has now been reclaimed.

EA042.08.06, archaeological significance: C/B

Tramroad EA042.08.06 which serves this quarry was recorded as Disgwylfa main; IWW006e(iii) during GGAT 80 year 2 work (see GGAT Report no. 2006/013).

Table 13. Subsidiary point and polyline features within EA042.08.01 and EA042.08.06

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.08.01	Tip (example)	SO1897112823 (2.3m accuracy)
Under EA042.08.01	Scouring channel	SO1919912715 (5.4m accuracy)
Under EA042.08.01	Tips	SO1889312816 (4m accuracy)
Under EA042.08.01/ EA042.08.06	Tramroad cutting and side branch	SO1911712793 (4.3m accuracy)

Coal and Ironstone Workings and fragments amongst reclamation: EA042.03.01, EA042.07.02, EA042.07.03 and EA042.10

These form a series of areas which are essentially small fragments of survival of a larger complex extractive landscape depicted on the 1st edition OS map (1880) (EA042 and EA043 as identified during GGAT year 4 work, 2008, see GGAT Report no. 2008/014) which extended across much of the area, and which have been separated by development and land reclamation. This area again appears to have been part of the extensive Nant-y-glo mineral tract.

EA042.03.01, archaeological significance: C

Area EA042.03.01 is a small area, only part of which is depicted on the 1st edition OS map (1880) which appears to have consisted, in the south, of a patchworked opencast trench, with associated fan tips and some later conical tips (to the east of the area). The outline of the tips is shown on 1st edition mapping, and it appears that some of the spoil material may have been used to form a dam for reservoir IWW458 on its south and east sides. A low-lying area below the tips, in the floor of the trench, flooded at the time of the site visit, may be a former level entrance, though nothing is depicted here on the 1st edition map. There are a number of tracks through the area, which may be former tramroads. The north of the area is occupied by a group of fan tips, orientated north-south, radiating from a point to the north, which may indicate the presence of a former level here, possibly where the reservoir IWW451 was later constructed.

EA042.07.02, archaeological significance: B/C

To the northeast of EA042.03.01, is a larger, more clearly extractive, area, EA042.07.02, which is depicted as a discrete area of “Coal & Ironstone Workings” on the 1st edition OS maps (1880), part of the wider extractive landscape.

It consists primarily of a north-facing, east-west aligned quarry face defining its south edge, with the associated fan tips radiating out down slope to the south, amongst which there appear to have been levels and possible processing huts or other structures. The quarry face is embayed along its length, though it shows no signs of having been scoured. The area also appears to have been subjected to intensive pitting, there are several isolated examples as well as several groups of three or more (see table 14). Though there is a feature (08866g) which is listed in the regional HER as a former scouring pond, it appears more like a pit or quarried hollow which has flooded. There are also the remains of two possible hut structures, in close proximity to one another, at SO1842312607, a sunken feature *c.*3m square, with an associated spoil heap *c.*0.6m high, to the north, and SO1843512617, a sunken sub-circular feature *c.*3m in diameter and *c.*0.3m deep.

EA042.07.03, archaeological significance: D

This area is served by the east-west tramroad EA042.07.03 depicted on 1st edition maps. Although the line of the tramroad route survives, it is doubtful whether any of the original formation survives, as it has been recently used by heavy plant and severely disturbed.

EA042.10, archaeological significance: C/D

To the west of Brynmawr, area EA042.10 survives as a small isolated fragment in a reclaimed landscape, just to the north of the ponds of Beaufort Hill Woodlands. Tips predominantly define the area, and there is a track running east-west, dividing the area into two discrete areas of tips. To the south, there is a cluster of fingertips radiating out to the east from a single point, while the tips to the north are shorter and broader. There are three possible shallow surface workings or level entrances in the area *c.*1.5m wide, as well as two further interconnected linear depressions

and a possible pit c.3.5m in diameter, in an area where there are further possible pits or areas of collapse of underground workings.

Table 14. Subsidiary point and polyline features within EA042.03.01, EA042.07.02, EA042.07.03 and EA042.10

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.03.01	Level entrance?	SO1801612161
Under EA042.07.02	Pit, entrance on north side	SO1849812662
Under EA042.07.02	Pit	SO1850012636
Under EA042.07.02	Row (E-W) of three pits (collapsed shallow bell pits?)	SO1852212626
Under EA042.07.02	Pits (5+) some flooded	SO1851212586
Under EA042.07.02	Three sub-rectangular pits	SO1846912639
Under EA042.07.02	Possible processing hut, sunken feature	SO1842312607
Under EA042.07.02	Possible processing hut/area, sunken sub-circular feature	SO1843512617

Table 15. Water management features within EA042.03.01

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW451	Reservoir, Bryn Pit	Reservoir	SO1799712369
IWW452	Leat, Bryn Pit	Leat	From SO1762012421 to SO1801412811
IWW454	Leat, Bryn Mawr	Leat	From SO1799712092 to SO1805512440
IWW456	Reservoir, Bryn Pit	Reservoir	SO18005 12279
IWW457	Leat, Bryn Mawr	Leat	From SO1790312077 to SO1798612285
IWW458	Reservoir, Bryn Mawr	Reservoir	SO1794312066
IWW626	Leat system, Bryn-mawr	Leat system	From SO1801711931 to SO1808412191

Twyn Blaen-nant (see Figure 5)

Extractive landscape areas: EA042.05.03 and EA042.05.11

EA042.05.03, archaeological significance: A?/B

To the south of Blaen-afon Road is a large extractive area depicted on the 1st edition OS map (1880), consisting of a series of large patchworked trench cuttings terraced into the face of the ridge. The majority of the area falls within the estate of Henry Neville Earl of Abergavenny and was leased to Josph Bailey and Crawshay Bailey, during the mid-19th century (Tithe c.1840). It is therefore likely the mineral tract of this area would have supplied the nearby Nant-y-glo Ironworks. The north eastern fringe of the area may have been associated with Tir Llwyn-y-pwll, further north, referred to in a lease of 1769 relating to ‘Tyr Llwyn y Pwll, Bryn Mawr, and Blaen Clydach’ in parishes of Llanelly and Llangattock, and also ‘all the Duke of Beaufort's iron ore or iron mine and coal found on any of the Duke's lands and tmt's, freehold or waste lands, or commons, within co. Brec., and all the Duke's lime stones in co. Brec.; also of a m. called Blaen Ebow, with a coal work, in p. Llangattock; with liberty to erect works for melting ore into iron’. The lessees named as Samuel Walker of Masbrough, Yorkshire, Pennoyre Watkins of Brecon, and Isaac Wilkinson of Bristol.¹⁰ This area is further mentioned in a document of 1801 as part of the mineral tract leased by the Duke of Beaufort to Messrs. Kendall and Co. of the Beaufort Ironworks.¹¹ From 1833, the Beaufort Ironworks and the Nant-y-glo Ironworks were operated as a joint venture; the mineral tract would have supplied both works, thereafter.

This area, which comprises four opencast trenches, appears to have exploited two specific coal veins; the Elled Coal Vein and the Three-Quarter Coal Vein, and it is likely that these trenches were initially sited on areas of outcropping or mineral exposure. Given the relatively primitive opencasting technology employed, it would appear that mineral extraction in this area dates to an early period. The opening of the large opencast trenches appears to post-date the earliest phase, visible in the area, represented by small (prospective?) pits and scoops, which survive above the working face, and which may have been formerly more extensive. The opencast trenches, now the dominant feature of the area, relate to large scale quarrying which employed scouring techniques for cutting back the quarry face and processing the extracted ironstone, using hushing channels located up slope of the quarry faces. These channels were cut successively further and further back as the quarry face advanced.

Following the removal of the material using opencast technology, the mineral seams appear to have been chased by levels driven into the hillside, the possible remnants of which remain visible along the lateral quarry faces of the trench. The first edition OS map (1880) shows the area following the end of extraction; two adjacent levels located near the southwest of the area are shown, both marked Old Levels (coal), whilst the depiction of quarry edges/tips an indication gives some idea as to the final extent of the quarried areas. The first edition also details the final layout of the area’s water management features related to scouring and hushing activities.

The working faces of these trenches are aligned east-west and face north, with the tips lying down slope to the north. As well as major scouring activity, there is a series of three interconnected hut structures (EA042.05.11). The remains of a homestead, (EA042.05.10) or smallholding have been noted in the south of the area; this site and other smallholdings in the area are typical of post-medieval encroachment along the margins of the common. This is a

¹⁰ Badminton 2: 6,109 - 6,110.

¹¹ Lloyd 1906, 180-181.

phenomenon characteristic of the transitional period of early agri-industrial exploitation of common land.

Trench 1

The most easterly of the surviving trenches, centred on SO2092411325, the quarry face includes stretches of exposed rock face, and has been scoured, creating curvilinear banks on the face and bays at the foot of the face. The remnants of a complex scouring system are visible above the working face of the trench at the east end. There is a series of leats (IWW919) running parallel with the trench edge; these leats are associated with hushing or scouring and illustrate the dynamic process of scouring, with leats being continually renewed and replaced as the quarry face is cut back. The 1st edition OS map (1880) depicts the main east-west leat (IWW919), running parallel with the south face of the trench, and forming a right-angle turn from the south, as it flowed down from the farmstead named Waun-y-pwll-dwr. The remains of two parallel channels are visible on the ground, with banks constructed of earth and stone, and run along the top of the trench, and converge with the third, not depicted on the 1st edition map which flows down the slope from the south, forming the head of a scour. At this point is a small mound of earth and stone, which appears to have marked the site of a hushing sluice which controlled the flow of water down the face.

There is also a scouring system on the trench floor, including a pond with an artificial bank, *c.* 1m high, on the west side, which has been breached in several places, and a channel beyond the bank, flowing west *c.* 1m wide and 1.5-1.75m deep, the bank being *c.* 1m high. On the north side of the reservoir is a further channel, which appears to have been blocked off by spoil from the adjacent large crown pit working/bell pit. The latter, a large saucer-shaped depression is *c.* 1.8m in diameter, *c.* 3m deep with a further *c.* 1m deep to the depression at the centre. A group of lobed tips to the northwest may be associated with this pit, or with the adit above it. The adit entrance, *c.* 1m wide at the base, and *c.* 1.5-2m deep, faces northwest and has associated spoil, cut by a track, to the northwest. In the vicinity is a small pit on a spur to the south, measuring *c.* 2m by 1m. There is also another linear cut, possibly a small level, which faces southeast, with the associated spoil lying to the east.

The majority of the extractive activity in the trench has taken place in the south half, against the main quarry face, with pits, adits and levels dug into the face, and associated fingertips. There are several small shallow pits, generally *c.* 1.75-2m in diameter and roughly *c.* 1m deep or more. There are further groups of linear cuttings dug into the south slopes of the trench, generally with entrances *c.* 4m long and *c.* 1m wide at the base, with linear spoil tips to either side. There are small pits throughout the area; some places show signs of voids caused by scouring.

A tramroad (not depicted on the 1st edition OS map) enters the trench at its east end from the north, and runs north-south through the area. Much of the formation is still visible, though part of its route runs through a large area of collapse in the trench floor, and the rubble exposed at the base of this hole includes the large stones of the tramroad formation. When the tramroad reaches the south face of the trench, it turns to the east and ascends partway up the slope, running along the working face, and it appears to terminate here. This branch of the tramroad may have served possible levels, which survive as depressions in the slope.

On the trench floor, at the east end, below the termination of the tramroad, the base of the trench appears to be lower than the rest, and this depression, probably an area of deeper workings, appears to be routinely flooded. The furthest eastern extent of the trench contains a linear cut, possibly a level. The entrance is *c.* 1m wide and includes a length of drystone walling which may be revetting. This is associated with a possible structure; a sub-rectangular feature *c.* 7.5m long

and 2m wide internally, open at the west end and defined by a bank c.0.5m high, and 1m wide (spread to 2m). This feature is revetted into a spoil tip and may be a shelter or processing hut.

Table 16. Subsidiary point and polyline features within Trench 1, EA042.05.03

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.05.03	Convergence of three leats forming the head of a scour	SO2101611236 (3.1m accuracy)
Under EA042.05.03	Scouring system; pond, breached bank and two channels	SO1081711260
Under EA042.05.03	Saucer-shaped depression; large crown pit working or bell pit	SO2081911270 (6.3m accuracy)
Under EA042.05.03	Adit	SO2079011264 (7.1m accuracy)
Under EA042.05.03	Pit	SO2079011264 (7.1m accuracy)
Under EA042.05.03	Linear cut/possible small level, facing SE	SO2079011264 (7.1m accuracy)
Under EA042.05.03	Two small shallow pits	SO2085911281 (3.7m accuracy)
Under EA042.05.03	Linear workings and associated linear spoil	SO2087611274 (5m accuracy)
Under EA042.05.03	Tramroad, running N-S	SO2095311288
Under EA042.05.03	Termination of tramroad	SO2099211256 (4.2m accuracy)
Under EA042.05.03	Possible level with revetted entrance	SO2105411280
Under EA042.05.03	Structure	SO2105411280

Trench 2

On the opposite side of the main north-south trackway which runs through the area, extractive activity continues in a similar style, the second trench is a continuation of the first one, exploiting the same seam, but on the west side, centred on SO2064011349. The quarry face again includes lengths of exposed rock face, with evidence of scouring, and the tips lie to the north, while there are areas of pits and other workings in the slopes and above the trench wall. The scouring of the rock face has left scouring channels visible on the face, and has exposed sections of rock. The main channel runs east-west above the south face of the trench, and two parallel scours are visible breaching the bank of this main leat and running over the working face.

Several linear cuttings have been dug into the slope of the trench face. These may be levels, adits or quarry scoops; a group of five are visible approximately halfway up the face of the trench, along the line of a former scouring channel. There may originally have been a series of levels dug into the base of the slope, though the portals have now collapsed. There are further possible levels or trial adits in the face; two parallel north-facing linear cuts are approximately 5m apart, both are c.2.5m long and 1m wide. There are further small pits and holes (c.1m²) in the surrounding area. There are also small shallow pits above the trench face, with associated small spoil tips. Above the trench face, there are also areas of deep pits or collapses, possibly from the underground workings dug into the face, or airshafts for these adits and levels.

The tips associated with this quarry face lie to the north and on the trench floor. Fan tips located within the area are associated with both collapsed levels, and the cutting of the opencast trench.

A large depression in the trench floor (c.9m by 8m) may be a later pit. It is surrounded by large quantities of frogged bricks, which could be the remains of a collapsed pithead structure, or, more likely, fly tipped building waste, which is found elsewhere in the area.

Table 17. Subsidiary point and polyline features within Trench 2, EA042.05.03

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.05.03	Scouring channel	SO2070511290 (7.1m accuracy)
Under EA042.05.03	Breach in leat bank	SO2067911300 (6.7m accuracy)
Under EA042.05.03	Two parallel linear cuts, trial adits?	SO2053611360 (4m accuracy)
Under EA042.05.03	Area of small shallow pits	SO2070311267 (6m accuracy)
Under EA042.05.03	Area of several pits/collapses/air shafts	SO2067111300 (7.1m accuracy)
Under EA042.05.03	Pit and possible pithead structure/dumping	SO2063311354 (4.8m accuracy)

Trench 3 (including EA042.05.11)

Trench 3 is again a continuation of the type of extractive activity seen to the east in trenches 1 and 2, centred on SO2036911301, and about 65m to the west of Trench 2. The workings are on the south face of the trench and the associated tips, mainly large amorphous tips, but including some fingertips, lie to the down slope side, in this case, to the west, where the ground is lower as the ridge curves round towards Brynmawr. There is evidence of scouring on the working face, forming curvilinear banks on the face. The substantial main channel feeding the scours runs from east to west above the edge of the trench, with banks of spoil on either side. Some small tips lie between this and the trench edge, but the scouring leats run north from this channel over the working face.

Levels, now collapsed, appear to have been dug into the face of the trench, and now form linear depressions, with lobed tips radiating outwards. Small scoops have also been dug into the slope, below the scours; one of a group of three has an exposed, scoured quarry face (originally c.3m high, now slumped) at the end, with the entrance (c.2m wide) between the large tips, which lie to either side. These tips curve inward and are 1-2m high and c.9m long. A channel runs off from this quarry along the trench floor, presumably draining the scouring water.

There are also areas of shaft workings, possibly for coal, and other diggings above the trench edge; two large circular pits amongst an area of smaller elliptical pits, and a group of four slightly smaller pits, all surrounded by low spread spoil heaps, were noted lying in close proximity. To the east of these is a further group of 7 pits, two of which are c.5-6m, while the rest are c.3-4m; two of the pits are linked by a leat/channel.

EA042.05.11, archaeological significance: A? /U

In the far eastern part of Trench 3, just outside the border of the enclosed land, is a linear arrangement of small hut-like features, EA042.05.11, aligned northwest-southeast; these sub-rectangular features, c.0.75-1m by 1m, and c.0.25m in height, have rounded corners and are defined by parched, lichen-covered banks with areas of surviving stone facing. Associated low well-vegetated spoil tips lie to their east, and there are fragments of coal in the surrounding area. The interiors of these features are slightly lower than the surrounding ground surface, and contain large, lichen-covered boulders. A low stone bank runs roughly northeast-southwest behind the group, and there is a low platform to the northeast. These features may be footings of huts used by quarry workers, possibly employed in ironstone processing; another possible interpretation is that they are primitive kilns or clamps.

The hut to the southeast of the series, Hut A, is 6.8m by 4.8m, while next to this, Hut B, the middle hut of the complex is 5.4m by 4.9m, and has a possible curvilinear annexe linking it to

Hut C, c.2m wide. The last hut, C, to the northwest, is 6.5m by 6m. As well as the boulders in the interior, there are further signs of disturbance; modern debris, plastic sheeting and animal bone.

Table 18. Subsidiary point and polyline features within Trench 3, EA042.05.03

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.05.03	Scours, scoops and curvilinear banks on working face	SO2046911349 (9.7m accuracy)
Under EA042.05.03	Main E-W scouring channel for Trench 3	SO2046711298 (8.4m accuracy)
Under EA042.05.03	Levels	SO2046211326
Under EA042.05.03	Series of three scoops in trench face	SO2043311310 (4.5m accuracy)
Under EA042.05.03	Area of pits above trench	SO20491 11332 (8.5m accuracy)
Under EA042.05.03	Area of 7 pits	SO2052311341 (2.3m accuracy)
EA042.05.11	Three hut-like rectangular features, Twyn Blaen-nant	SO2036711361
Under EA042.05.11	Hut A	SO2037211358 (5m accuracy)
Under EA042.05.11	Hut B	SO2036711362 (2.7m accuracy)
Under EA042.05.11	Hut C	SO2035911371 (3.8m accuracy)

Trench 4

This is the uppermost of the 4 trenches, terraced into the slope and centred on SO2043011218. The coal/ironstone quarry is similar in form to those further down the slope; a large opencast cutting with a substantial linear quarry face along the southern edge of the cutting, with spoil tipped down slope to the north in largely amorphous tips. The south face again includes exposed quarry faces, with secondary excavations evident, such as a series of small quarry scoops and possible levels, now collapsed. Also, evidence of hushing survives; hushing channels/leats run parallel above the working face and intermittent visible scours running down the face to small embayments of fine scoured material. As with Trench 1, the points of convergence of the scouring channels include banks, hushing gates or sluices, to control the flow of water. One of the hushing channels or scours running towards the quarry face from the southwest appears to originate from a sunken area which may have been holding tank, or small scouring reservoir.

Table 19. Subsidiary point and polyline features within Trench 4, EA042.05.03

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.05.03	Convergence of scouring channels	SO2048611192 (4.6m accuracy)
Under EA042.05.03	Collapsed level entrance, E-W scour, series of scoops	SO2036311259 (4.8m accuracy)
Under EA042.05.03	NE-SW scour from possible holding tank	SO2050811204 (4.5m accuracy)

Area EA042.05.03 outside of Trenches 1-4

The area extends further west, into the enclosed land, but this has now been altered. It appears that it may originally have consisted of opencast trenches of a similar type to those which survive to the east, but the trench itself has now been filled in, though the associated large lobed tips remain. A small rectangular platform feature, *c.*1.75m wide by *c.*2.5m long, with banks of *c.*0.75m wide, with a possible entrance of *c.*0.5m wide, lies at the foot of one of these tips, on its south side. It is directly under the overhead line of wires, however, and it may be that this feature is associated with them rather than being original to the extractive area. Part of an old tramroad plateway is testament to the original extractive and industrial character of the area, though it was found out of *situ* and was not in any of the former trench areas.

EA042.05.10, archaeological significance: A?/U

The remains of a homestead or dwelling (EA042.05.10), 13.5m by 5.5m, on a slight platform (with rectilinear yards *c.*5m by 5m wide to the west and east), located to the south of Trench 2. The building is aligned east-west along the slope, an alignment more characteristic of the 18th and early 19th century, as opposed to earlier arrangements which were often downhill sited. The walls stand to a maximum of 1.25m at the west, while the less well-preserved survive as earth and stone banks, *c.* 1.8m wide and 0.35m-0.5m in height. The main construction is of stone, though early unfrosted yellow brick was also noted at the site.

The homestead is a rectangular two-unit structure with an internal central north-south dividing wall. The main part of the dwelling slightly elevated to the west has the remains of a hearth (1.7m wide) and collapsed chimney in the west gable end wall, and an external entrance located within the sidewall to the north (obscured by tumble, though probably centrally located to room), with an external porch feature. A possible access into the eastern compartment was noted at the north end of the central dividing wall, adjacent to the external wall. The two-unit internal layout appears to represent either a basic arrangement of kitchen and parlour, or small single unit dwelling with attached byre.

The homestead is depicted on the 1st edition OS map (1880), and the Tithe map of *c.* 1840 at which date it is recorded as a cottage and garden, owned by Henry Neville Earl of Abergavenny and leased to Josph Bailey and Crawshay Bailey, Esquires. The map evidences show the homestead set at the southern side of a small rectangular enclosure.

Associated with this settlement, and radiating out from it, is a substantial boundary bank which surrounds a triangular enclosure to the north, extending towards and across the quarried areas; this enclosure, again shown on the 1st edition OS map and the Tithe of 1840, is named as 'Tier Shoon Harry' (Tir Sion Harry) in the schedule. The eastern boundary of the enclosure comprises a massively constructed earth and stone bank and ditch (south side), which curves to the quarry face of Trench 2. The western boundary bank runs north-south and crosses Trench 4, and the major east-west scouring leat (IWW919), further north this feature is visible as a stone faced bank/dry stone wall. The location of this settlement within an area of Common, its close association with extraction, indicates this settlement represents post-medieval encroachment and the remains are likely to represent an 18th or early 19th century transitional agri-industrial settlement, associated with both the exploitation of the common for agriculture and industrial purposes.

Table 20. Subsidiary point and polyline features within EA042.05.03, but outside trenches 1-4

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.05.03	Small rectangular platform at foot of tip	SO2026711399 (2.6m accuracy)
Under EA042.05.03	Tramroad plate	SO2012611433 (6.8m accuracy, not <i>in situ</i>)
EA042.05.10	Ruined homestead and yard	SO2070411194
Under EA042.05.10/ EA042.05.03	Boundary bank	SO2052611306 (5.5m accuracy) (at intersection with E-W leat)
Under EA042.05.10/ EA042.05.03	Boundary wall/stone-faced bank	SO2053411271

Table 21. Water management features within EA042.05.03

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW919	Waun y Pwll Dwr scouring leat	Leat	From SO1994510876 to SO2141711452

Nant-melyn (see Figure 6)

Extractive landscape areas: EA042.06.03 and EA042.06.06

EA042.06.03, archaeological significance: A/C

An extensive area of shallow workings (patch/quarries and scours), bounded to the east by EA042.06.06, roughly following the line of stream valley of Cwm Nant-melyn, partly reclaimed), down the south facing slope. The area takes in the remnants of an early opencast trench and associated tips (truncated) within a detached area at the north, east of Figyn-fawr Pond. The southern extent of this feature and its associated tips have been lost to 20th century opencast, their former extent is detailed on the 1st edition OS (1880). These workings were of similar type to those noted further west above Clydach Terrace.

The surviving southern part of EA042.06.03 comprises the main scoured stream valley of Cwm Nant-melyn. Due to restrictions on access (the area lies largely within enclosed land in private ownership), much of the area was not visited during the course of the present year's work. The RCAHMW has provided descriptions area's features (these have been presented in Appendix 1). Of particular note are the remains of a scouring/hushing reservoir and associated scours, the embankments and channels of which remain visible at the western side of the area. This feature is further described below under IWW918 in the water management section.

EA042.06.06, archaeological significance: C

This is an area of extractive activity along the east bank of the Nantmelyn stream. The exploitation on the lower slopes appears to have been fairly small-scale, evidenced by small quarries faces along sides of the stream valley; a number of small lobed tips survive. A trackway is depicted on the 1st edition OS map (1880) serving the farmstead and various workings; this feature follows the eastern branch of the Nant Melyn stream. It is unknown whether this follows the line of an earlier tramroad, however the trackway retains lengths of well-constructed stone revetting near where it crosses the adjacent stream.

The area also contains the demolished remains of Nant-melyn farmstead, (in EA042.06.06) depicted on the 1st edition OS map (1880). This was a single range of dwelling with an attached outbuilding/byre, aligned north south. To the north a substantial linear tip associated with either the opencast workings along the stream valley, north of Nant-melyn farmstead or with a level working was noted. This feature and the adjacent workings lie within privately owned land and were not accessed at the time of the survey.

Table 22. Water management features within EA042.06.03

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW918	Nant-melyn scouring system	Reservoir and scours	From SO1973812598 to SO1995412952

Brynmawr north (see figure 7)

Extractive landscapes Clydach Terrace area, West: EA042.09.02, EA042.09.03, EA042.09.04, EA042.09.05, EA042.09.06, EA042.09.07, EA042.09.08, EA042.09.09, EA042.09.36, EA042.09.38, and EA042.09.40

This very large and exceptionally well-preserved extractive landscape lies to the north of the Heads of the Valleys A465 road, within the boundaries of the Brecon Beacons National Park. It appears to have been worked over a long period, with successive phases of activity and extractive techniques employed in different parts of the area. Cartographic evidence indicates that the area has a long history of extraction; a plan of 1760¹², for example shows workings in the area around Clydach Terraces, and old mine workings to the west and south west of ‘Coedgaemawr’ (Coedcaemawr), which are described as old, and remains of particularly deep and extensive hushing and scouring channels in both of these areas supports the documentary evidence.

The area is included in a lease of 1769 which refers to the holdings of ‘Tyr Llwyn y Pwll, Bryn Mawr, and Blaen Clydach’ in parishes of Llanelly and Llangatock, and also ‘all the Duke of Beaufort's iron ore or iron mine and coal found on any of the Duke's lands and tmt's, freehold or waste lands, or commons, within co. Brec., and all the Duke's lime stones in co. Brec.; also of a m. called Blaen Ebow, with a coal work, in p. Llangatock; with liberty to erect works for melting ore into iron’. The lessees named as Samuel Walker of Masbrough, Yorkshire, Pennoyre Watkins of Brecon, and Isaac Wilkinson of Bristol.¹³

With the establishment of the Beaufort Ironworks in 1779, the mineral tract leased to the Ironworks, encompassed the Clydach Terrace area.¹⁴ Documents of 1820 and 1821¹⁵ indicate the area still formed part of extensive mineral tracts of the Beaufort Ironworks leased from the Duke of Beaufort. From 1833, the Beaufort Ironworks and the Nant-y-glo Ironworks were operated as a joint venture, the mineral tract supplying both works. The extractive areas below are presented roughly in chronological order.

EA042.09.40, archaeological significance: A?/B

The north part of this area is characterised by small-scale shallow surface workings and crown pits following the curvilinear line or arc of a mineral crop; one example, of numerous pits in the area, is a steep-sided crown-pit c.4.5m in diameter. The curvilinear area of pits and shallow workings joins with the northwestern quarry face of EA042.09.06 to the west, and extends down the western side of the major scour within EA042.09.09, at the east. The southern extent of the area has been more intensively worked, and might be better viewed as associated with the adjacent areas of EA042.09.08 and EA042.09.09. This area appears to be associated with large-scale processing, and is characterised by numerous pits and amorphous tips, creating an extremely disturbed pitted landscape. Water channels leading from Nant Gwaun-y-Ffa (IWW900) appear to have directed water into this area for use in scouring the workings.

¹² A Plan of Blaen-clydach & Coedgaemawr, in the parish of Langatock’. p. 72 [Manor of Crickhowell] in a ‘Survey of the manors & lordships of Crickhowell and Tretower, in the county of Brecon’ by Meredith Jones. 1760. **Badminton Vol. 14 143/1/5.**

¹³ Badminton 2: 6,109 - 6,110.

¹⁴ Lloyd 1904, 178-179.

¹⁵ Maybury 1: 126; 128-9; 130; and 262.

The resource here would benefit from detailed survey to allow better understanding of the processes represented by the remains in this area. The RCAHMW and its sub-contractors under the Uplands Initiative have recorded a number of individual and groups of extractive features within the area; these descriptions are quoted below, for information:

292024 (at NGR SO1866913401): “A 6m diameter pit with an extension in the southwest corner, 2m x 1.5m. The pit is 1.5m deep and has steep regular sides with some spoil within the pit to the northeast side. Located within the coal measures area it is probable that this pit is associated with coal mining operations in the area” (J. Winterburn, John Winterburn Archaeological Services, Sept, 2005; Coflein).

291900 (at NGR SO1863513473): “An area of extraction pits and trenches, up to 6m long (east-west), 3m wide (north-south) and up to 2m deep. Many are irregular and have a sloping entrance from the east. There are some roughly circular pits between 2 and 4m diameter. All can be found on a north facing, gently sloping plateau below a local summit. The pits are located above the coal measure, close to the "five feet Gellideg" coal seam and can therefore be considered to be coal extraction pits” (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

291992 (at NGR SO1869013222): “An area of approximately 30m x 50 m containing more than 25 pits, typically 2.5m to 3m diameter and up to 2m. deep. There are banks of spoil surrounding most of the pits which are up to 1.5m high and contain fragments of coal. The area containing the pits probably continued to the north but was covered by spoil tips from later mining activity. These pits have been interpreted as coal extraction pits given their number and location, overlying the coal measures” (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292013 (at NGR SO1862313332): “An area 120m x 50m at the top of an opencast valley containing a number of small deep pits and associated spoil heaps, typically 5m dia. X 3m deep. (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein) 292018: An oval shaped pit 2m x 4m and 1.5m deep with an oval bank of spoil around its perimeter. The spoil is up to 2m wide and 0.5m high. This may be the site of a mine shaft” (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

Table 23. Subsidiary point and polyline features within EA042.09.40

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.40	Crown-pit working	SO1854813492 (5.7m accuracy)

Table 24. Water management features within EA042.09.40

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW916	Gwaun-y-Ffa Ponds	Ponds	SO1865213528

EA042.09.08, archaeological significance: A?/B

This is predominantly an area of northeast-southwest aligned linear tips, of generally low rounded form with lobes splaying at the southwest, well vegetated by heather and bilberry. The low tips form four distinct clusters, the southernmost of which appears to have been truncated by the landscaping associated with the construction of the Heads of the Valleys road. A linear quarry face, with possible evidence of scouring, is located to the east aligned northwest-

southeast. The workings in this area, which includes a number of shaft workings or pits, are likely to relate to both coal and ironstone extraction, and the waste tips in the area also appear to relate to workings within the adjoining area, EA042.09.40, to the east. The RCAHMW and its sub-contractors through the Uplands Initiative provide the following descriptions of individual features in the area, not described further by the current survey:

291993 (at NGR SO1863413221): “A series of at least 6 pits and small quarry features in a line running north-south along the west facing slope of natural ground. The pits are typically 2.5m to 3m diameter and 1.5m deep and surrounded with a low bank of spoil 1m wide. There is an exit trackway 0.7m wide, from most of the pits. These are coal extraction pits and may pre-date the more extensive mining in the area during the 19th century” (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292075 (at NGR SO1859813215): “An area containing at least 5 pits, 3m to 4m in diameter and 2m deeps in a line running north-south at the foot of an east facing scarp with a further 6 pits running to the west. There are low spoil heaps around some of the pits, up to 2m wide and 1m high containing shale and coal fragments. Some of the pits have entrances on the eastern side. These are coal extraction pits” (J. Winterburn, John Winterburn Archaeological Services, Sept 2005; Coflein).

EA042.09.02, archaeological significance: A?/B

This is an area of early intensive workings (EA042.09.02), located at the northwestern edge of the main Brynmawr north area. An extensive area of linear and lobed tips and a deep opencast trench excavation, which defines the northeast edge of the area, largely represents the extractive remains in this area. A single level, EA042.09.16 was depicted on the 1st edition OS map (1880); the location of the feature was flooded on the date of the site visit.

The quarry face along the north and east edge of the cutting appears to have been progressively quarried further back into the hillside; the current extent of the trench’s quarry face retains the remains of a number of small ‘pit’ like features and possible adits located along foot of the slope. Many of the ‘pits’ at the quarried face have large blocks of stone associated with them; a possible, though by no means confirmed explanation, is that these may have acted as ‘pad’ stones or supports for structures. The working face of this trench appears to have been scoured, using diversionary leats around the edge of the working (IWW922 and IWW923). The ephemeral remains of short subsidiary channels or hushing leats, which extend towards the working face from the diversionary leats, were noted. The latter survive as scours over the break of slope of the quarry edge. Small piles of fine material, water scoured spoil associated with the occasional large blocks of stone, are visible at the foot of the scours. To the north of the workings, a former holding pond and associated channels are visible, though these have become silted. The Nant Gwaun-y-Ffa (IWW900) appears to have been diverted westnorthwest (from its original course to the southeast), making a dramatic acute angled turn in its course to eventually cut through the southern part of the area on a northeast-southwest direction.

The trench along the northeastern edge of the workings represents the final phase of the opencast workings EA042.09.02. Waste from the workings has progressively filled the area to the west and south as the working has progressed in a northeasterly direction. A series of small crown pits workings were noted along the foot of the eastern edge of the area, while a small flooded rectangular depression, possibly a pit or adit entrance, is located at the south east of the area.

Related to the opencast trench working is an extensive area of long linear tips; these are generally low and narrow in profile, and fan out from the northeast. The earlier tips appear to be those nearest to the southwest extent of the area.

This area represents phases of continuous excavation, probably exploited initially on a fairly small scale, the surviving remains are related to progressive opencast operations, coupled with level workings, which have been worked in a northeasterly direction. Tipping in the area has also been progressive with the earlier opencast workings and tips at the southwest being tipped over as the workings progressed up slope to the northeast. This activity necessitated the construction of diversionary channels for drainage of the workings, but also for scouring the quarry face and processing the ironstone. The final phase of extraction, once the current location and extent of the opencast trench had been achieved, appears to have been the driving of levels into the face to fully exploit the mineral crop; a single level (Coal), Level EA042.09.16, depicted on the OS 1st edition OS map, represents this phase.

Numerous individual features within the area were recorded by the RCAHMW and its sub-contractors through the Uplands Initiative; those described further during the course of the current survey are presented below under the relevant EA numbered entry. The RCAHMW entries noted within this area are quoted below for information:

291889 (at NGR SO1787413776): “An area of long, narrow fan shaped spoil tips. Numerous tips within an area of at least 5 hectares. Typically the tips are 10m to 30 m in length, 3 m to 4m wide and up to 3m high. They are the result of coal mining in shallow mines within this area” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291883 (at NGR SO1789313656): “A small square structure 3m x 5m, walls 0.5m thick x 0.2m high with an entrance on the north side. The rubble from the collapsed walls show no evidence of a mortared construction. The building is in an area of continuous overlapping spoil heaps, but appears to have been constructed at the original level and may predate the quarrying activity” (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291905 (at NGR SO1787413634): “Fan shaped spoil tips, possible overlying earlier tips in this area. This recorded example is typical of the tips within this area and is approximately 52m in length and 1.5 to 2m high. At its base it is 6m wide reducing to 1.25m at its top” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291906 (at NGR SO1790413738): “An example of the many similar spoil tips within this area. This example is 22m long by 9m wide at its base, 1.5m wide at the top and 3 m high and is covered in grass. They tend to be grouped in two or three fan shaped tips emanating from a single point. Some of these tips over lay low lying tips” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291915 (at NGR SO1796813471): “The site of a reservoir with a spill way connected to a water channel (286295) and the remains of earth dams and embankments. Most of the site has been overlain with spoil tips from later mining activity. The remnants of the structure are shown on the 1st edition Ordnance Survey maps and so the reservoir was derelict at this time” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291916 (at NGR SO1799013496): “A water management channel 1.2m wide and 0.8m deep and lined with stone blocks. There is a concrete spillway at its western end and this connects with a cast iron pipe, 0.5m diameter. A cast concrete spill way (2.7m wide, reducing to 1.5m and 11m long) diverts overflow water to the southwest into reservoir 286294” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291924 (at NGR SO1799313420): “Stone lined water channel tunnel cut into possible spoil heap or embankment. Semicircular 1m wide and 0.8m high. Continuous water movement noted. Probable industrial purpose. Within quarrying complex” (L. O'Brien John Winterburn

Archaeological Services August 2005; Coflein).

291925 (at NGR SO1794713470): “4 Metre section of wall at base of spoil heap that forms part of a leat system. The wall stands 1 metre and 5 courses high and is constructed from sandstone. It has a northeast to southwest orientation. A leat lies immediately in front of this feature and can be traced for 29 metres. Occasional sandstone blocks noted on eastern edge of the leat. At the northern most point of the leat the edge of a 0.5 metre ferrous pipe is visible. This appears to run underground for 7 metres where a stone lined rectangular opening or manhole 1 metre by 1.5 metres is visible. The pipe can be seen to terminate at this point. This feature lies within extensive quarry complex” (L. O'Brien, John Winterburn Archaeological Services August 2005; Coflein).

Table 25. Subsidiary point and polyline features within EA042.09.02

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.16	Coal level	SO1813213791
EA042.09.25	Tramroad	From SO1798413008 to SO1831413935
EA042.09.25	Tramroad formation and stones	Runs due N from SO1807713672- 10.9m accuracy
Under EA042.09.02	Series of pits	Between SO1806812853 and SO1795712899
Under EA042.09.02	Scour and scoured waste	SO1789213917, 8.3m accuracy
Under EA042.09.02	Scour and scoured waste	SO1807813836, 11.4m accuracy
Under EA042.09.02	Area of large stone blocks associated with a scour	SO1787312899 (5.1m accuracy)
Under EA042.09.02	Flooded rectangular depression	SO1803013619

Table 26. Water management features within EA042.09.02

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW900	Nant Gwaun-y-Ffa	Stream/leat	At SO1818213630 to SO1791813343
IWW922	Diversion leat north of EA042.09.02	Leat	From SO1774013860 to SO1800913998
IWW923	Diversion leat east of EA042.09.02	Leat	From SO1793413957 to SO1831913697

EA042.09.25, archaeological significance: B/C

The tramroad EA042.09.25 runs through this area, from southwest to northeast, serving the levels to the northeast of the area (EA042.09.03, Redvein Level, and EA042.09.04) as well as the levels and adits driven into the working face of the cutting. Much of the tramroad formation, 1.15m wide, survives in fair condition with parallel rows of flat stones, which would have supported the rails, visible in places.

EA042.09.07, archaeological significance: A?/B

Area EA042.09.07, primarily an area of long, narrow lobed tips, appears to predate and to have been cut by the trench related to the extraction of the 5ft coal (EA042.09.06) and its associated tips to the west (EA042.09.05). The linear tips which dominate the north and central area are generally orientated northeast-southwest, and appear to be the remains of ironstone/coal extraction close to the surface; these tips are now largely divorced from their workings, which have in part been removed by the excavation of the deep trench EA042.09.06 to the north and west. Along the southern and eastern fringes of the area, numerous abutting fan tips with short lobes were noted on a variety of alignments from north-south, to northwest-southeast, and extending to cover areas of undisturbed ground. The latter appear to be associated with a small area of quarry face, which defines the northern end of the eastern edge of the area. In addition, a number of pits or collapsed shaft workings were noted along the western fringe of the area; a typical example is c. 2m wide at the top sloping to c. 1m at the base, and surviving to c.1.05m deep, again these pits appear to relate to the spoil tips further south.

The RCAHMW gives the following description of the wider area:

305771 (at NGR SO18241326): “1. Ironstone workings characterised by large number of finger shaped tips. To north of Brynmawr” (David Thomas, RCAHMW, 29th July 2002). “2. An extensive area of ironstone and coal mining activity, known locally as The Patches. And covering an area of at least 400m radius from this point and extending further to the north” (J. Winterburn, JWAS, September 2005; Coflein).

EA042.09.38, archaeological significance: B/C

This area is depicted as unexploited on the 1st edition OS map (1880), however traces of water channels, leats, and potential hushing sluice sites, as well as limited pits and surface workings exist within the area. These features are visible on aerial photographs.

EA042.09.23, archaeological significance: A?/B

A workers' shelter, EA042.09.23, depicted on the 1st edition OS maps, survives as a rectangular hut with a small annexe at its east end, c.6.5m by c.5m (externally including the annexe) defined by banks, between 0.6m and 1m high, of earth and stone. Internally, the main part of the structure is c.3.5m by c.3.75m. The annexe, c.0.65m by c.1m (internal), extends 1.25m beyond the main structure, and has banks c.0.25m high. The construction appears to have been drystone, of local random stone and rubble, though some blocks appear to have been roughly dressed. There is a large mound, possibly of ore, associated with a boggy area to the south, which may originally have been a water channel, perhaps indicating that the ironstone processing was carried out in the immediate vicinity. The hut is located in a sheltered position in the lea of adjacent linear tips, while a linear gully nearby may be the remains of an adit entrance, though this is uncertain.

Table 27. Subsidiary point and polyline features within EA042.09.07

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.23	Stone hut	SO1835413257
Under EA042.09.07	Pit	SO1838713166 (6.7m accuracy)

EA042.09.09, archaeological significance: A?/B

The extensive area EA042.09.09 is an early scour along what may have been an early course of the Nant Gwaun-y-Ffa. This feature extends south from the diversion westnorthwest of the latter to the boundary of the settlement of Clydach Terrace. The latter settlement in place by 1st edition OS, is also depicted in an earlier form on the Tithe (1845). The initial scour in this area, which enters the course of the River Clydach in the Clydach at two places beyond the settlement, is likely to predate at least the western part of the settlement itself, given the extent of the scour. Indeed, scouring activity in this area appears to have been of long standing, with a manorial map of 1760, showing old works at the southern end of the area. A haulage track (dashed line on the 1st edition OS map of 1880) originally accessed the area, running the entire length of the scour providing access to the workings in the vicinity of Redvein Level. If this were the route of a tramroad (unconfirmed), this would have been dismantled by 1880.

At the northern extent of the area is a large basin-shaped linear quarry cutting, open to the south, with associated tips down slope to the south and west. To the northwest of the main quarry cutting, are small crown-pit workings, which average c.4m in diameter, and appear to have been cut through the spoil. The quarry basin itself represents a good example of open cast trenching; there are patches of exposed ironstone/waste visible at the base the quarry faces. There is surviving evidence to indicate the area was scoured via channels extending from the adjoining area EA042.09.11. The tips on the east side of the cutting have been tipped over as the quarry was extended northwards. The associated tips show different stages of development of the quarry, those in the north within the basin have a different profile, being broad with short lobes, while those to the south within the main part of the trench are long, narrower and are more uniform; the former probably represent the final stages of quarrying, whilst the latter long tips relate to the extensive period of extraction within the main scour. The tips furthest to the east, at the border with EA042.09.11, appear to relate to the quarry within the basin and workings along the eastern quarry face; these tips contain quantities of angular shale, and were noted to overlie some of the scouring channels. The area would benefit from further detailed work on tip morphology.

The area to the northwest also appears to have been manipulated for scouring both this area and possibly others further south (EA042.09.40). Traces of a series of curvilinear banks are visible, which may have been associated with leats or a holding reservoir draining the boggy land. The line of the Nant Gwaun-y-Ffa stream (IWW900) appears to have been diverted in order to maximise the water supply for scouring. The line of this channel may be preserved as a series of linear ponds depicted on the 1st edition OS map (1880) down slope to the west of the quarry basin.

The RCAHMW Uplands Initiative has lead to the recording of the following features within the area:

291991 (at NGR SO1886113019): “Two circular pits, 3m diameter and 1,5m deep, within an area of coal mining waste” (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292009 (at NGR SO1888113068): “An area 100m x 50m containing numerous small pits, typically 10m dia. X 3m deep with associated spoil heaps. Coal is visible near the surface in the pits. Local anecdotal evidence suggests that they were exploited during the early 20th century by groups of local unemployed” (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).

291903 (at NGR SO1863513584): “Two irregular shaped and one circular spoil tips, approximately 2m in height. They are approximately 6m by 4m, 8m by 3.5m and 2m diameter. To the east of an area of quarrying” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

Table 28. Subsidiary point and polyline features within EA042.09.09

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.09	Scour	SO1869613616 (8.9m accuracy)
Under EA042.09.09	Crown-pit workings	SO1868813596 (6.2m accuracy)

Table 29. Water management features within EA042.09.09

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW900	Nant Gwaun-y-Ffa	Stream/leat	From SO1832713973 to SO1816513632
IWW912	Leat E-W between EA042.09.11 and EA042.09.09	Leat	From SO1875613452 to SO1894213531
IWW913	Leat N-S between EA042.09.11 and EA042.09.09	Leat	From SO1876913344 to SO1889313426
IWW914	Leat S of EA042.09.11 running E-W	Leat	From SO1889313337 to SO1898613449
IWW916	Gwaun-y-Ffa-Ponds	Ponds	SO1865213528

EA042.09.06, archaeological significance: A?/B

This deep extractive trench, EA042.09.06, contours the hillside above Blaen Clydach in a wide arc from the north turning gradually south west and then south, the waste material from the excavation is found in the tips of EA042.09.05, paralleling to the west and south. This feature, which takes the form of a deep, heavily worked curving linear trench, represents opencast workings along the five-foot coal seam. Sections of exposed quarry face along the eastern side of the trench, as well as crown-pit and rake workings of shallow pits and scoops dug into the sloping sides and floor of the trench were noted. The feature ends in an area of intensive shallow workings at its southern extent. The trench appears to have exploited both coal and ironstone; with evidence of scouring noted along the quarry face; hushing channels at the lip of the quarry, scours visible on the face, and small mounds of scarified waste at the foot of the trench sides, were all in evidence. Leats for hushing were noted extending to the quarry faces in the area from adjoining area, EA042.09.36.

EA042.09.05, archaeological significance: A?/B

The extensive area of waste tips within area EA042.09.05, located west of trench EA042.09.06, are the result of intensive extraction along the curvilinear exposure of the 5ft coal seam (excavated from the open trench EA042.09.06). The tips are likely to overly, at least in part, workings and tips associated with earlier ironstone extraction, similar to those surviving to the northwest (ie area EA042.09.02). The visible tips are of a distinctive lobed shape, shorter and broader than those within EA042.09.02 and EA042.09.07, and form an arc, which contours the hillside, following the curving line of trench EA042.09.06. A large amorphous tip at the

southwest extent of the area has been included; this is of a different type, and appears to have been formed from a cluster of conical tips, and as such is likely to belong to a later phase.

Of the area's numerous waste tips the RCAHMW and its sub-contractors under the Uplands initiative recorded a sample feature, the details of which are given below:

291907 (at NGR SO1823813563): "A fan shaped spoil tip made from colliery shale, some of which is exposed beneath the grass. This is an example other numerous tips within this area and at least 5 others can be seen within 20 m of this tip. It is 67 m long by 9m wide at its base and 1.5m wide at its top and 4m in height. It overlays several smaller tips all emanating from a single point" (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

The current survey recorded two huts within the area, EA042.09.20 and EA042.09.21 (see below), these would have provided shelter for quarry workers involved in extraction and processing activities. The latter would have included the initial breaking, grading and cleaning the ironstone through weathering and scouring, and also converting the raw material through stacking and burning (using coal) to produce furnace ready ore.

EA042.09.20, archaeological significance: A?/B

Workers' hut, EA042.09.20, depicted on the 1st edition OS map (1880), is a sub-rectangular structure, c.7.5m north-south by c.4m externally (internal dimensions: c.4.3m by c.2m), defined by low earth and stone banks (c.0.25m high by c.1.5m wide), and located on a level plateau overlooking Nant Gwaun-y-Ffa (a tributary of the River Clydach). The structure has an entrance, c.0.9m wide, in the southeast corner and a possible internal subdivision towards its north end. Stone-facings are particularly visible on the west side of the bank. The presence of other features in the adjacent area including two, well-vegetated, low mounds, possibly of ironstone, and a sunken rectangular reed-filled hollow, possibly for water storage, indicates this area may have been associated with ironstone ore processing. The hut is located immediately to the north of a group of spoil tips. The remains of an ephemeral embanked feature, or enclosure c.5m wide by c.16m long, lies a short distance to the northwest of the hut.

EA042.09.21, archaeological significance: A?/B

A further workers' hut, EA042.09.21, also depicted on 1st edition OS map, comprises a fairly primitive, though massively constructed sub-rectangular platform scoop, with spread banks to the east, west and south sides, which survive to a maximum height of c.0.75m internally (on the southeast side) and are c.2m wide. The banks delineate an area c.7m by c.7m (c.4.25m by c.2.25m internally). The enclosure, located amongst tips, appears to be open on the northwest side. Reeds and nettles obscure the interior of the hut indicating disturbed ground and soils with enhance nitrogen content. As with several of the other hut structures noted, there is an adjacent boggy area, and there are associated mounds c.0.75m high, grassed over shale waste/ ironstone, which include large boulders.

Table 30. Subsidiary point and polyline features within EA042.09.05 and EA042.09.06

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.20	Hut	SO1838813592
EA042.09.21	Hut	SO1819913502
Under EA042.09.06	Steep-sided pit, large stone in base	SO1812713182 (18.1m accuracy)

EA042.09.36, archaeological significance: A?/B

This is a relatively unworked area crossed by the now ephemeral routes of leats which were used to scour the adjacent area EA042.09.06, to the southwest. There is also evidence for the site of a possible hushing sluice at the head of a scour with the northwest edge of the area, at the junction of several ephemeral channels, within an area of elevated peat bog. The main scouring leat which parallels the southwestern edge of the area and the adjacent trench, flows north-south before turning to the southeast to drop over the edge of the trench.

Table 31. Subsidiary point and polyline features within EA042.09.36

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.36	Scouring leat	SO1825113130
Under EA042.09.36	Head of a scour	SO1834013124

EA042.09.03, archaeological significance: A?/B

The underground workings are likely the latest activity in the extractive sequence for this area, or at least the last phase of extractive operations to be active in the sequence. At the final stages, the first edition OS provide evidence that open cast operations within EA042.09.02, EA042.09.06, and elsewhere had ceased, and that three levels alone remained active within the north west area: Redvein level (ironstone) and two levels (coal), nearby. The first of these, Redvein Ironstone level, EA042.09.03, is located below a boulder-strewn scarp, possibly a natural spring line, where outcropping is also evident. The remains of the level portal (EA042.09.17), partially collapsed (now flooded), faces southwest, and is lined with drystone revetting. A branch of tramroad EA042.09.25 approaches the level portal along a narrow dry-stone revetted cutting, now strewn with boulders, and currently flooded and acting as an active drain. There are two other potential level entrances to the east of main level portal (EA042.09.17), all now active drains. Small low spoil tips lie close to the east of the adit mouth, and the main elongated fan tips associated with the workings, lie southwest of the main entrance, at the end of a linear tipping line. Around the level are further subsidiary features, including a sub-rectangular pit, c.4m wide, with a bank on the southwest side. There is also a mound of mid-sized boulders and a linear stone feature, over 10m in length, both of which may be stockpiles of ironstone.

The following interests in the wider area have been identified by the RCAHMW and its sub-contractors through the Uplands Initiative:

291855 (at NGR SO1815913918): “Three earthwork mounds located on the south facing slope. Mound 1, 10m by 5m and 1.5m high (NGR SO 1815913918). Mound 2, 10m by 6m and 1,5m high (NGR SO 18148 13892). Mound 3, 12m by 7m and 2.5m high (NGR SO1813913870). Probably associated with the rifle range targets indicated in this area on the Ordnance Survey 1st and 2nd edition maps” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291893 (at NGR SO1837013776): “A 4m diameter platform (*industrial*) cut into the south facing hill slope, with a bank, 2.5m wide at is front (south) edge” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

Table 32. Subsidiary point and polyline features within EA042.09.03

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.03	Mound of mid-sized boulders	SO1821513886
Under EA042.09.03	Linear stone feature, possible stone dump	SO1821513886
Under EA042.09.03	Sub-rectangular pit	SO1819713939

EA042.09.04, archaeological significance: B

A coal level, EA042.09.04, depicted on the OS 1st edition, though not named is located to the south of Redvein Level; a branch of the tramroad EA042.09.25 served the level (also shown on the OS 1st edition), accessing the area via a narrow north-south aligned cutting between the spoil tips (now flooded). The area of workings, and the level entrance (EA042.09.18) itself is very low-lying and is now permanently flooded, as a result the level portal is no longer visible. A group of associated waste tips with very short, stubby lobes lies to the west of level. These tips are associated with several pits and associated spoil, possible crown pits. The line of the former tramroad serving the level also connected the level to a cluster a pronounced fan tips which survive nearby to the southwest.

The following interests in the wider area have been identified by the RCAHMW and its sub-contractors through the Uplands Initiative:

291880 (at NGR SO1823513838): “Small rectangular building 3m x 3m walls 0.3m thick x 0.5m high with a doorway at the north end. From the north side the wall extends 13m long x 1.75m high of mortared construction, with an earth bank on the west side. The function of the two structures is not apparent, but is assumed to be linked with the quarry activity in the area” (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291893 (at NGR SO1837013776): “A 4m diameter platform cut into the south facing hill slope, with a bank, 2.5m wide at its front (south) edge” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291896 (at NGR SO1838013786): “A low mound of concreted ash and burnt brick, coal and slag and some vitrified silica brick. It is 12m long and 6m wide. Test on the slag with a magnet indicate the presence of iron. Other features in the area (NPRN 286270, 286274) indicate that this is possibly the site of either a lime kiln or an iron smelting furnace” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291897 (at NGR SO1836613782): “A pit, approximately 4m x 4m, cut into the south facing slope with spoil, up to 3m high at its front edge” (See also NPRN 286270, 286273), (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

EA042.09.19, archaeological significance: A?/B

To the south west of level EA042.09.04, set between the line of the tramroad EA042.09.25, and leat IWW900 (the canalised route of Nant Gwaun-y-Ffa), within the shelter of the tips associated with EA042.09.04 is a small rectangular feature, EA042.09.19. This feature, depicted on the 1st edition OS map (1880), is the remains of a workers’ hut or shelter. The hut, approx. 10.6m long by 7.4m wide, is open to the southwest, and defined on three sides by earth and stone banks, c.1.7m wide and c.0.6m high, roughly constructed of rounded water worn stones, probably from clearance. The main axis of the hut is aligned northeast southwest, and the bank on the

northwest side extends further south as an amorphous bank ending in a separate mound of stone. The interior, c.4m by c.6m, is slightly depressed and is vegetated with nettles.

During the fieldwork in this area a rifle range target (EA042.09.31) of early 20th century date was noted located to the west of level EA042.09.04 on top of the associated tips.

Table 33. Subsidiary point and polyline features within EA042.09.04

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.04	Crown-pit working, with crescent spoil mound	SO1824613878 (5.1m accuracy)
Under EA042.09.04	Small, sub-circular pit	SO1824613878 (5.1m accuracy)
Under EA042.09.04	Possible crown-pit workings	SO1824813867)
Under EA042.09.04	Small pit with associated dumping on the south side, large boulders in interior	SO1824813867
EA042.09.19	Hut	SO1823613751

Table 34. Water management features within EA042.09.04

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW900	Nant Gwaun-y-Ffa	Stream/leat	From SO1832713973 to SO1816513632

EA042.09.35, archaeological significance: U

There are further features in the area, which are not necessarily extractive in character, and are probably not related to the ironworks. One of these, EA042.09.35, lies outside of any of the extractive areas, to the northeast of levels EA042.09.03 and EA042.09.04. This is a sunken rectangular platform, the interior of which is filled with reeds, with a prominent bank on the west side of c.6m by c.3m. There is a smaller bank on the east side, and a raised mound c.3m high lies to the south, while a second, smaller more ephemeral platform measuring c.5m by c.3m lies to the north; these features are considered to be target features associated with a firing range shown on the 2nd edition OS map.

EA042.09.31, archaeological significance: A?/B

Within the area of level EA042.09.04, on top of the large tips to the northwest of the level entrance, is a structure, EA042.09.31, a rifle target dating to the early part of the 20th century. It is constructed of coursed rubble, and roughly squared-off blocks, mortared, with substantial quoins to the corners. The feature is aligned northwest-southeast, and comprises a wall, 1.8m in height (13 courses) fronting a substantial earth bank c.20m long and 4.5m wide. At the southeast end of this wall is a small rectangular enclosure or room, 4.35m by 4.15m, with walls c.0.7m thick, and c.0.4m high (3 courses) on the east side and an entrance at the northwest. The interior is obscured by tumble. The main northwest-southeast wall shows evidence of alteration, with a possible blocked opening. A slight rectilinear depression was noted in front of the wall obscured by dense reed growth. The 2nd edition OS map (1904) shows a rifle range in the area, while the 3rd edition (1920) depicts the structure, and identifies it as a target; it is likely that the target dates to the First World War period.

Extractive landscape Clydach Terrace area, East: EA042.09.10, EA042.09.11, EA042.09.12, EA042.09.13, and EA042.09.15**EA042.09.13, archaeological significance: A?/B**

Area EA042.09.13 is set on a ridge of higher ground which has been left standing proud by later continuation of working on either side and appears to be early in the sequence of extraction in the Clydach Terrace area. The area comprises a linear series of small, shallow crown-pit (a typical example is c.1.5m wide and c.1.75m deep), rake and level workings extending in a narrow band, which follow a mineral seam, or crop from west to east, where they end in group of four adjacent adits. These underground workings appear to have been drained by a north-south channel running in front.

The vast majority of the features in the area are small pits and their associated tips, cut along a linear east-west aligned channel (former scour?) or rake, which may also have acted as a barrow run, and larger linear scooped features (quarries or collapsed adits?), cut into the base of the slope and the lower of the parallel channels. A typical example of the latter was a rounded elongated scoop c.5.6m wide and c.1.6m deep, found to contain exposed stone fragments at the base, associated with this was a short tip, c.7m long, c.6m wide and c.0.5m high, of shale waste. The linear east-west channel, or scour, runs over the western edge of the major north-south scour (west of Coedcaemawr) and may have originated from the hushing reservoir EA042.09.48. The evidence for this connection, though, has been lost/severed by continued scouring. A number of minor southwest-northeast-aligned channels were noted running down slope from the major east-west aligned linear feature noted above; these are considered to be the remains of lateral hushes. A number of hushing channels were also noted at the western edge of the major north-south scour (west of Coedcaemawr); these had been used to scour the quarry face below (within area EA042.09.15).

A discrete group of three closely spaced shaft workings, and a large linear quarry scoop, lies at the southeast edge of the area.

Table 35. Subsidiary point and polyline features within EA042.09.13

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.13	Cut rectangular feature, adit mouth or trial adit	SO1943413197 (6.4m accuracy)
Under EA042.09.13	Cut rectangular feature, adit mouth or trial adit	SO1943913186 (6.4m accuracy)
Under EA042.09.13	Cut rectangular feature, adit mouth or trial adit	SO1943913182 (6.4m accuracy)
Under EA042.09.13	Quarried-out linear feature	SO1943213155 (5.4m accuracy)
Under EA042.09.13	Crown-pit working	SO1944813173 (6.4m accuracy)
Under EA042.09.13	Pit or small adit	SO1943113178 (7.8m accuracy)
Under EA042.09.13	Rounded elongated pit	SO1929413242 (8.5m accuracy)
Under EA042.09.13	Tip associated with above pit	SO1929413242 (8.5m accuracy)
Under EA042.09.13	Confluence of two scours	SO1945013187 (6m accuracy)
Under EA042.09.13	Deeper scour cutting edge of area	SO1925713252 (6.6m accuracy)
Under EA042.09.13	Scoured embayment in quarry face	SO1907013356 (5.6m accuracy)
Under EA042.09.13	Quarry embayment, with faces 2.5-3m high	?

EA042.09.15, archaeological significance: A?; EA042.09.48, archaeological significance A?/B; EA042.09.11, archaeological significance: B

Closely associated with area EA042.09.13 is area EA042.09.15. This is an extensive area containing major scouring features, quarries, shaft workings and levels, dominated by a large scouring reservoir at its northern extent. The latter feature (EA042.09.48/NPRN291923), visible as a substantial earth and stone embankment, *c.*180m long and *c.*2m wide, is located at the north of the area. The embankment or dam has a straight linear southern bank and splayed western and eastern arms extending northwest and northeast respectively. The south and east banks survive in good condition, while the northern extent of the west side has been obscured by tips from the quarried area (EA042.09.12) to the north. The bank has been breached in one place. Further breaches (subsequently repaired?) are indicated by three large scours which run south from the bank, and extend to an area of considerable disturbance. The scours which run south through the area EA042.09.15 from the reservoir EA042.09.48 are very substantial in the south of the area and the system appears to have been utilised for a sustained period of time, as the scouring channel has left the earlier ground surface (ie the adjacent area EA042.09.13) to the east standing proud at a higher elevation.

To the south of area EA042.09.13, a major northwest-southeast aligned scour survives; this feature diverges into three/four lateral hushing channels. Banks or blocking dams constructed across the channels to regulate and divert the flow were visible; these would have acted to divert the flow to different areas of the quarry face and workings as required. The heavily scoured slopes to the south provide good examples of the highly erosive process of hushing/scouring with the scoured slopes/quarry faces remaining bare, and continuing to suffer from severe erosion. At the foot of these scoured faces, debris and tips of flushed spoil, are visible, as well as linear channels, which would have drained the scouring water away from the quarry face. In the lower scoured area to the south, below the high scoured faces, is an area of crown pit workings, a coal level (EA042.09.24) and associated tramroad (EA042.09.49) shown on the 1st edition OS (1880), all of which post-date the scouring operations.

Several hushing leats (IWW912, IWW913, IWW914) within area EA042.09.11 (largely outside the proposed scheduled area) were formerly used to scour quarry EA042.09.09; these originated in area EA042.09.15, emanating from scouring reservoir EA042.09.48 (or a drainage system further to the north, now lost to quarrying).

To the west of scouring reservoir EA042.09.48 is a major north-south scouring channel which extends to Clydach Terrace and beyond to the Clydach Dingle. There are remains of an extensive linear quarry cutting between 2.5m-3m deep, that runs north-south along the eastern face of the scour. The face of the quarry has been scoured by channels from reservoir EA042.09.48, creating numerous embayments along the face. At a number of points the quarry face has been undercut, through a combination of quarry cutting and the action of water scouring, and the undercut faces have collapsed. There are also rounded boulders in front of the face, which are probably glacial, and may have been used in preliminary processing. Evidence of scouring is frequent with scours visible often in association with flushed spoil tips, and channels noted below the quarry face continuing to the west, which would have acted to drain the area of the workings. Considerable quantities of shale spoil and other debris remain along the quarry face, and ironstone nodules are also in evidence at points along the face.

Levels have been dug into the quarry face, probably once scouring activities had ceased. The best surviving example is adit EA042.09.47, the entrance approach is via a linear cut, *c.*1.5m deep and *c.*1.4m wide at the base, associated lobed fan tips lie to the west. The entrance has been partially backfilled, though with a void remains at the head of the portal, and a spoil heap, *c.*13m

in length, aligned southwest, lies to the south of the entrance. A scouring channel runs down the quarry face to south of the adit portal, and there is a possible secondary entrance or drain further to the south, now blocked, which lies beyond the spoil tip, approached by a narrow drystone revetted gully.

A main access point to the quarry lies at SO1902113367, and tramroad EA042.09.27 appears to have utilised the same route. The latter feature is preserved as it approaches the quarry, and a possible incline wheel pit (unconfirmed) was noted at the top of the slope.

The tramroad, depicted as a track on the 1st edition OS map of 1880, accessed the scour north of Clydach terrace, using the entrance to the linear quarry face, diagonally climbing out of the scour at SO1906613367, it runs in a flattened arc east-west across the higher ground to cross the major north-south aligned scour associated with the scouring reservoir EA042.09.48 on route to quarry EA042.09.30 (at NGR SO1930713383). The tramroad and its associated quarry post-date much of the major scouring activity in the area (see EA042.09.27, below for further details).

A barrow run/or former tramroad, c.1.5-2m wide, runs northwest from tramroad EA042.09.27 at SO1894313367; the remains of this embanked and boulder revetted linear feature can be followed in an arc from its junction with EA042.09.27 as far as the edge of a southwest-northeast aligned scour at SO1900213365, which is currently an active drain. The barrow run feature then traverses the edge of the western side of the scour before entering area EA042.09.09 to the west and joining other tracks in the area. To the south of the arc of the barrow run at SO1896813381 within a boulder-strewn area are two adjacent adit entrances cut into the southwest facing slope; the northern of the two entrances, c.1.75m wide, is revetted by drystone walls constructed of boulders, now collapsed. A subsidiary entrance lies to the southwest, also with drystone revetting (also collapsed) with water draining from it. Small linear tips lie to the southwest.

The tips are generally grouped into discrete clusters, probably associated with the quarry face, and with the individual adits, generally of the fingertip type which is typically associated with underground workings, though there are also some possible conical tips to the south of the area.

At the south of the area a level (Coal) EA042.09.24, and its associated tramroad EA042.09.49 were noted; cartographic evidence indicates that these are late in the extractive sequence of the area (see EA042.09.24 and EA042.09.49 below).

The RCAHMW and their sub-contractors through the Uplands Initiative have recorded several features within the area; the details are quoted below for information:

291921 (at NGR SO1918513543): “A hushing channel aligned east-west and visible for approximately 50m and between 2 and 5m wide. Its northern end is truncated and overlain by later spoil tips and its southern end ends within the banks of an old hushing reservoir” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291923 (at NGR SO1916013450), equivalent to EA042.09.48: “Semicircular embankment 180 metre long with a 2 metre flattened apex 2 metres across. Steeply running sides. This feature is the remnant of a reservoir that was used to feed the hushing channels to the south” (L. O'Brien, John Winterburn Archaeological Services, August 2005; Coflein).

292015 (at NGR SO1909513323): “Two adjacent quarries, each 15m east west x 10m x 3m high. Both quarries are in beds of fractured sandstone which splits easily and evenly into thin sheets. Possibly a source of roofing/flooring material” (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292017 (at NGR SO1910813349): “An area of 3 hushing channels each up to 6m wide and 2m deep. There is some evidence for transverse dams across the channels at various points along their length. Two small channels, up to 1m wide and 0.5m deep cross between the larger channels and could be the remains of earlier hushing channels. The channels are truncated at their northern end by a spoil tip from a quarry and at their southern end by a quarry” (J. Winterburn, John Winterburn Archaeological Services, Sept, 2005; Coflein).

292055 (at NGR SO1919713242): “An area of mining activity, approximately 100m x 400m and to a depth of at least 4m. There are numerous spoil tips and shallow pits within the area” (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

Table 36. Subsidiary point and polyline features within EA042.09.15

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.24	Level (more detail, see below)	SO1915813093
EA042.09.27	Tramroad (more detail, see below)	From SO1888613267 to SO1932413378
EA042.09.30	Quarry (more detail, see below)	SO1930713383
EA042.09.47	Adit	SO1913613210
EA042.09.48	Scouring reservoir	SO1920213439
EA042.09.49	Coal level tramroad	SO1918613021
Under EA042.09.15	Bank across scouring channel	SO1940713112 (7.1m accuracy)
Under EA042.09.15	Linear channel, tips and debris at foot of scoured face	SO1906513359 (6.3m accuracy)
Under EA042.09.15	Group of three crown-pit workings	SO1917713174 (8.6m accuracy)

Table 37. Water management features within EA042.09.11

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW900	Nant Gwaun-y-Ffa	Stream/leat	From SO1832713973 to SO1816513632
IWW912	Leat E-W between EA042.09.11 and EA042.09.09	Leat	From SO1875613452 to SO1894213531
IWW913	Leat N-S between EA042.09.11 and EA042.09.09	Leat	From SO1876913344 to SO1889313426
IWW914	Leat S of EA042.09.11 running E-W	Leat	From SO1889313337 to SO1898613449

EA042.09.12, archaeological significance: A?

The scouring features within EA042.09.12 appear to predate much of the quarrying and tipping remains noted immediately to the north within EA042.09.12. Some of the groups of fingertips to the south of this area overlie the scouring reservoir (EA042.09.48). The area is dominated by a

dramatic, north-facing quarry face which defines the south side of the area. The quarry forms a distinct inverted-V shape in plan, with the face itself being divided into two lengths; that to the east, aligned southeast-northwest, and that to the west, aligned northeast-southwest. The eastern side has been scoured, with flushed shale waste typically forming triangular shaped piles at the foot of the quarry face below each hushing channel. There are also signs of associated processing areas. The relatively late date for this activity is attested by the tipping of waste on the northeast side of the earlier reservoir EA042.09.48.

The quarry face to the west has also been scoured; hushing channels remain clearly visible above the quarry face and are associated with triangular piles of scoured spoil at the base. Three rectangular features depicted on the 1st edition OS map (1880) in the area were found to be the remains of workers' huts or shelters: EA042.09.26, EA042.09.45 and EA042.09.46 (equivalent to NPRN291910, see below); these relate to quarrying and the initial processing of ironstone on site.

The RCAHMW and their sub-contractors through the Uplands Initiative have recorded several features within the area; the details are quoted below for information:

291910 (at NGR SO1909113571), equivalent to EA042.09.46: "The ruins of a rectangular stone building, approximately 4m by 2m and aligned north-south. The dry stone walls survive to a height of 0.2m and are built from laminar blocks of shale with the central core filled with shale fragments. The structure is built between spoil tips and may have been used as a workman's shelter" (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291912 (at NGR SO1931513549): "Trackway from Coedcae Mawr into the quarry area 2.5m wide, cut into the natural to form an even gradient" (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291913 (at NGR SO1914613580): "Extensive area of linked quarry faces, typically 50m long x 25m wide x 6m high at the face, and associated spoil heaps" (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291920 (at NGR SO1934913415): "A mine adit at the head of a "valley" formed from spoil tips to the north, east and west. This " valley" is indicated on the 1st. Edition Ordnance Survey maps. The adit is approximately 1.2m x 1.2m and is in an east facing outcrop of the coal measures" (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

EA042.09.26, archaeological significance: B/A?

Hut EA042.09.26 is located at the foot of the quarry face, and the structure appears to have been cut in to the rock of the quarry, with the back wall (i.e. the northeast side of the structure) formed of the neatly cut exposed bedrock. The internal dimensions of the exposed part of the structure are *c.*2.2m north-south and *c.*1.2m east-west, though this is obscured in the southwest corner by scouring debris. The low footings of the front wall are visible, *c.*0.6m wide and faced in roughly dressed stone on both the interior and the exterior.

EA042.09.45, archaeological significance: A?/B

Hut EA042.09.45 to the northwest of EA042.09.26, is also located close to the foot of the quarry face. This is a sub-rectangular stone-built structure of roughly coursed rubble construction (rounded boulders, platy slabs, and two larger boulders) with rough facing, constructed on a slight platform east-west aligned platform. The south wall, *c.*7m long, the most substantial is the best preserved with the return wall at the west end being disturbed, that to the east indicated by a scarp below a footpath at the base of the quarried face. The remains indicate a linear arrangement

of two or three units or ‘compartments’ open to the north. The western of these compartments, c.5.4m by c.2.6m (externally), c.4.6m by c.1.8m (internally), is the best defined. The best-preserved area of walling is at the southeast corner, where they survive to 5 courses (0.45m), and are c.0.6m wide. It is likely these low walls represent low footings for a wooden or perhaps turf built hut. To the west of the hut, on the opposite side of the track is a level platform with a large quantity of debris associated with ironstone processing.

EA042.09.46, archaeological significance: A?/B

The remains of another small structure lie to the west of hut EA042.09.45, in the area of spoil tips. Hut EA042.09.46 is a small sub-rectangular embanked structure, 5.8m by 2.6m on a rectangular level platform in the lea of adjacent linear tips. The northwest end of the structure has a characteristic ‘hood’ where the scarp of the hut platform is cut into the slope of tip. The structure tapers slightly to the southeast from 2.6m to 2.5m. Internally, it measures approximately 4.2m by 1.3m. The walls are dry stone of roughly coursed rectangular blocks and survive to c.0.55m in height, roughly 7-8 courses; the east wall is 0.68m wide, while the walls to the south and west are spread. The interior obscured by shale waste fragments. Although no obvious entrance is visible, this was most likely on the south side, where the walls are masked by shale waste and tumble. There is considerable debris in the area, and, as with a number of structures noted nearby, a pond or boggy area was found in association. There is a pit nearby c.3m across, in the angle created by two tips, which may be a collecting pond or water source for processing activity. The amount of shale waste debris indicates that ironstone processing was being carried out at the site, and even within the hut itself. A possible ‘bucking stone’, which may have been used to crush or trim ironstone was noted in an area of waste to the northeast, while a slight platform, c.4m by c.4m defined by a roughly sub-rectangular embankment with a spur extending a further c.9m to the southwest, was noted in the area between huts EA042.09.45 and EA042.09.46, located part way up the slope. This feature may possibly have acted as a loading bay.

The RCAHMW and its sub-contractors under the Uplands Initiative describes hut EA042.09.46 as follows:

291910 (at NGR SO1909113571): “The ruins of a rectangular stone building, approximately 4m by 2m and aligned north-south. The dry stone walls survive to a height of 0.2m and are built from laminar blocks of shale with the central core filled with shale fragments. The structure is built between spoil tips and may have been used as a workman's shelter” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

Table 38. Subsidiary point and polyline features within EA042.09.12

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.26	Hut	SO1906713508
EA042.09.45	Hut	SO1315613565
EA042.09.46	Hut	SO1909213569
Under EA042.09.46	Area of tipping, including possible bucking stone	SO1912013566 (7.2m accuracy)
Under EA042.09.12	Tumbled hut/area of tipping	SO1911913548 (5.8m accuracy)
Under EA042.09.12	Pits, crown-pit workings and associated spoil	SO19349 13550 (4.2m accuracy)
Under EA042.09.12	Opencasted trench with quarry faces and pits	SO1932213582 (3.3m accuracy)

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.12	Scoured quarry face with ironstone nodules in rock and shale tips	SO1928413634 (5.4m accuracy)
Under EA042.09.12	Quarry face with four scours	SO1934413425 (4.7m accuracy)
Under EA042.09.12	Scouring channel	SO1934613580 (3.2m accuracy)
Under EA042.09.12	E-W linear stone dump with 3 associated scoops	SO1935413450 (6.5m accuracy)
Under EA042.09.12	N-S linear stone dump of stone and shale	SO1914413631 (6.4m accuracy)
Under EA042.09.12	Group of small pits with rectangular banks of spoil	From SO1932513591 (2.1m accuracy) to SO1932613586 (2.7m accuracy)
Under EA042.09.12	Area of small pits	SO1914313675 (3.2m accuracy)
Under EA042.09.12	Small flooded crown-pit working on boggy area above trench	SO1929013646 (3.2m accuracy)
Under EA042.09.12	Three platforms, possible processing areas	SO1931613597 (8.8m accuracy)

Table 39. Water management features within EA042.09.12

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW917	Figyn-fawr scouring system	Leat	From SO1940013326 to SO1954713549

EA042.09.10, archaeological significance: A?/B

To the north of this large, complex area is a detached opencast trench of limited size, EA042.09.10, orientated east-west, with the main working face on the north side and a small basin with quarry embayments forming the east end. The trench forms a large deep cutting, with the associated spoil tipped to the south and west. The tips to the south, slightly detached from the cutting itself, are stubby lobed tips, covered by heather and bilberry and. Narrower tips within the trench and at the west are characteristically long and narrow, generally vegetated with acid grassland species. A number of north-south orientated leats have been cut through the peat bog area north above the trench edge to channel water to hush/scour the trench faces. These channels appear to feed into a single hushing channel, which runs east-west, parallel and above the northern edge of the trench. The trench edge displays signs of the scouring action, with channels and curved embayments at the foot. These appear as semicircular banks set against the face of the cutting; a typical example measured *c.*0.75m high by *c.*3m wide at the base and *c.*1m wide at the top) with channels (*c.*0.25m deep and *c.*1m wide) between them. A potential level entrance was also noted within one of the embayments on the south side of the trench. A drain feature in the southwest corner of the trench runs underneath the access track to the quarry (EA042.09.44).

The RCAHMW and its sub-contractors under the Uplands Initiative have described the area; this is provided below for information:

291894 (at NGR SO1907813753): “The start of an area of quarrying in the form of a gully, 12m wide and up to 4m deep extending for over 300m to the southwest. This feature is shown on the

1st edition Ordnance Survey maps indicating it was in existence prior to 1880. The feature had not been extended by the time the 4th edition map was produced. May have been for quarrying limestone or coal from the nearby Garw seam” (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

EA042.09.44, archaeological significance: B/C

This is the access route to quarry EA042.09.10 depicted as a track on the 1st edition OS (1880). This trackway or haulage track follows the line of the western scour within EA042.09.15 to join with tramroad EA042.09.27, and continued south towards Clydach Terrace and Bryn-y-gaer. Ephemeral in places, this feature is visible as an embanked revetted linear scarp as it crosses the tips within EA042.09.12. This track, part of a wider network of trackways, which provided access to the workings, is possibly on the line of former tramroad (though this is as yet unconfirmed).

Table 40. Subsidiary point and polyline features within EA042.09.10

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.10	Scouring bank and embayment/level entrance	SO1903613709 (6.8m accuracy)
Under EA042.09.10	Drain	SO1892313673 (5.8m accuracy)
Under EA042.09.10	Sub-rectangular pit	SO1906613698 (2.6m accuracy)
Under EA042.09.10	Elongated E-W pit	SO1906513715 (2.5m accuracy)
EA042.09.44	Trackway (Tramroad?)	From SO1889213529 to SO1904912673

EA042.09.27 and EA042.09.30, archaeological significance: A?/B

Quarry EA042.09.30 (SO1930713383) and its associated tramroad EA042.09.27 appear to be late in the sequence of events in this area, as the tramroad cuts through the area of scouring EA042.09.15 and cuts several scouring channels with no visible culvert. The route of the tramroad is depicted on the 1st edition OS map (1880), though not shown railed indicating that it had been dismantled by this date. The quarry itself has a linear entrance and a large, basin-shaped quarry with exposed faces. Associated linear tips extend to the southeast, while there is also quarry waste tipped to either side of the entrance in linear tips.

The well preserved formation of the tramroad runs east out of the quarry entrance to then arc south and west; initially, as it runs south from the quarry at c. SO1935013282, it runs through a cutting, 1.25m deep by c.1m wide at the base splaying out to c.5.8m at the top. As it exits the cutting it turns west and is embanked for much of this length. This embankment (c.2m wide) crosses several of the scouring channels with no visible culvert or bridging. This tramroad also provides access to the north-south aligned quarry at the west of area EA042.09.15. A possible incline wheel pit was noted at the top of the slope, below the quarry. As the feature continues west through the area of tips down slope of the scoured quarry face, it becomes less well defined. A stone-revetted bank, c.1.5m wide for c.8.5m, of double-width boulder construction with a course of vertically set slabs, was noted on a similar alignment. This feature continues for a further c.1.75m of single boulders. To the north of the enclosed land and settlement of Clydach Terrace, the tramroad (at NGR SO1893013337) is again visible as a stone revetted formation c.1m wide set on an embankment c.1m high and c.4m wide, here it branches, with one line continuing to the west, and another turning south through the enclosed land (site of possible inclined plane).

Table 41. Subsidiary points along line of EA042.09.27

Numbers (see gazetteer for further details)	Type	NGR
Under EA042.09.27	Cutting	SO1935813295 (6.7m accuracy)
Under EA042.09.27	Tramroad embankment cutting scouring channels	SO1936413329
Under EA042.09.27	Branching of tramroad	SO1936413329

EA042.09.24, archaeological significance: B/A?

The latest feature in the area is coal level EA042.09.24, which is named as a Level (coal) on the 1st edition OS map (1880). The entrance cut runs between two stubby lobed spoil tips, 1-2m wide at the base and *c.*2m deep, and appears to have been partially backfilled. The portal faces south and is exposed for a height of *c.*1.25m; some 0.3m above this is the level of the adjacent track (the southern extension of EA042.09.44) which runs west-east above the entrance.

EA042.09.49, archaeological significance: B

The associated tramroad EA042.09.49 is depicted railed on the 1st edition OS (1880). The line is shown extending south from the level entrance, towards the associated waste tip, with a main line curving to the east, south and west to join the major east-west Disgwylfa line. The linear cut from the level mouth survives, though no rails or other features were noted at the time of the field visit.

**Pont ar Lwnc extractive area and tips associated with modern reservoir (see also figure 7):
EA042.09.32 and EA042.09.34**

EA042.09.32, archaeological significance: A?/B

To the west of the large and well preserved landscape around the Clydach Terrace area is a smaller area of extractive workings, EA042.09.32, adjacent to the A40 road. This area consists of a quarry, shown on the 1st edition 1:25,000OS map of 1880, and also depicted on the 1st edition 1-inch to the mile OS map of c.1840 (David & Charles Edition), and described as a Grit Stone Quarry.

The remains comprise a curvilinear quarry face running west-east along an outcropping of ironstone, and a continuation of the same activity was also observed to the west of the road. Discrete areas of working can be seen along the length of the quarry face, characteristically formed of small embayments within the larger quarry scoop. These appear to have been scoured by the leats which extend to the quarry edge. In addition to the main quarry face there are detached areas of workings and small scoops, generally with small associated tips, and a possible crown pit working. The tips lie down slope from the quarry face and are generally small and varied, and random, some conical, others lobed or linear in shape. Piles of graded stone and some larger blocks in the area suggest that some processing or sorting activity took place here, and a small rectangular level platform, which is associated with a slight mound to the west and a pile of sorted material to the south, may have been a working or processing area.

Table 42. Subsidiary points and polyline features in EA042.09.32

Numbers (see gazetteer for further details)	Type	NGR
EA042.09.33	Enclosure	SO1692613688
EA042.09.43	Trackway/Tramroad	From SO1677313611 to SO1720813748
Under EA042.09.32	Scour	SO1701313791 (5.3m accuracy)
Under EA042.09.32	Rectangular quarry scoop	SO1714113714 (11.9m accuracy)
Under EA042.09.32	Possible crown-pit working	SO1714513714
Under EA042.09.32	Rectangular platform	SO1715013702 (6.2m accuracy)
Under EA042.09.32	Quarry scoop and associated spoil	SO1715013702 (6.2m accuracy)

EA042.09.33, archaeological significance: B/U

Possible remains of a small structure, a sub-rectangular enclosure with a slight depression in the interior delineated by an earth and stone bank, which includes both large and small boulders in its construction, and is c.1m high and generally less than 1m in width. The enclosure is c.3m by c.2m internally and measures c.5m by c.2.5m externally.

EA042.09.43, archaeological significance: B/C

A west-east aligned trackway/tramroad, EA042.09.43, which served the adjacent grit stone quarries of EA042.09.32. The feature is shown as a trackway on the 1st edition OS map (1880); given its straight nature with gradual curves this is likely to originally have been a tramroad, confirmed by the 1-inch 1st edition OS map of c. 1840 (David & Charles Edition), where it is shown as a tramroad feature leading to a Grit Stone Quarry. The line of the slightly embanked tramroad formation crosses several minor leats (carried within culverts IWW901-905) which feed into leat IWW915, which ultimately supplied the Blaen Clydach reservoir to the south.

Table 43. Water management features within area EA042.09.32

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW901	Culvert under tramroad EA042.09.43	Culvert	SO1690413670
IWW902	Culvert 2 under tramroad EA042.09.43	Culvert	SO1699813690
IWW903	Culvert 3 cast iron pipe under tramroad EA042.09.43	Culvert	SO1706913693
IWW904	Culvert 4 stone lintel under tramroad EA042.09.43	Culvert	SO1714313665
IWW905	Culvert 5 (partially collapsed stone) under tramroad EA042.09.43	Culvert	SO1717113648
IWW915	Leat system west of Gwaun-y-Ffa, Mynydd Llangattwg	Leat	From SO1680512158 to SO1738513789

EA042.09.34, archaeological significance: C

To the south of quarry EA042.09.32, adjacent to the northwest side of the enlarged Blaen Clydach Reservoir is an area of fingertips, EA042.09.34, aligned northeast-southwest. These features, noted during the field visit, are not shown on the 1st edition OS map (or on the 2nd or 3rd editions OS for that matter). A study of the aerial photographic record shows that they are parallel linear tips, of a type associated with later 20th century workings. This would indicate that the waste is probably associated with enlargement of the Blaen Clydach Reservoir during the 20th century.

Mountain Air and Scotch Peter's Reservoir (see figure 8)

Extractive landscape: EA057.02, EA061.02 and EA061.03

The area around Mountain Air and Scotch Peter's Reservoir, on the ridge between Ebbw Vale and Tredegar has very relatively little extractive activity surviving. The 1st edition OS map (1879) depicts an extensive landscape of tips and quarries curving round the north edge of the ridge, most of which has now been reclaimed and is heavily forested. The area on the ridge itself contains very few extractive features on the 1st edition map. There is a series of three distinct quarried areas terraced into the slope, becoming progressively smaller further up. A number of reservoirs are located close by to the west (see section 6.2, below).

EA057.02, archaeological significance: C

The lowest and largest of these, EA057.02, is shown as a long east-west quarry face on the historic mapping, which has been terraced into a natural break in slope and appears to have exploited an outcrop of stone. It appears to have been worked using small-scale opencasting techniques. To the north of the main east-west quarry face, the ground has the appearance of having been dug over, and to the northwest of the main face are two smaller linear north-south aligned faces, facing each other, with associated amorphous spoil tips between them. Further small lobed tips are visible to the north and east of main face.

EA061.02, archaeological significance: C

To the north of this larger quarry face are two smaller quarries in a similar style. The first of these, also the larger, EA061.02, is depicted as a small quarry on the 1st edition OS maps (1880), and appears to be an area of small-scale opencasting with extant quarry faces, and small embayments cut into the face, with amorphous spoil heaps down slope. There is a lot of waste stone strewn around the area of the quarry face.

EA061.03, archaeological significance: C

The last in this series of three quarries, EA061.03, is also the smallest and the furthest south up the slope, and appears to have been worked in the same way as the larger ones to the south, but on a smaller scale, a small quarry face with embayments cut into it and small spoil mounds. Both of these smaller quarries to the north, like the larger example to the south, appear to have been cut into natural breaks in slope and taken advantage of stone outcroppings.

Given the small quantity of associated spoil, and the amount of stone strewn around the quarry faces, it appears that these were most likely sandstone quarries exploited for building stone. There are a number of stone boundary walls around the area, and two large reservoirs (IWW275 and IWW268) depicted on the 1st edition OS map (1878-80), which may have used stone from these quarries. The presence of grit stone in the material scattered around the quarries suggests that they may have been worked for millstones as well as for construction.

Cefn-goleu (see figure 9)

Extractive landscape: EA066.02, EA066.03, EA066.04, and EA066.07

The ridge to the west of Tredegar has seen comparatively little extractive activity. Parts of the small-scale quarry at Cefn-goleu are depicted on the 1st edition OS map (1878), and appear to be inactive at this time.

EA066.02, archaeological significance: B

The largest and most complex area of quarrying, EA066.02, is immediately to the north of the road over the common. This area consists of a main face running east-west, with a basin-shaped embayment in the northeast corner. To the west, shorter lengths of working face show signs of having been scoured. Above the northern face of the quarry, a channel runs parallel with the cutting edge, with signs that it may have included a scouring sluice. There are additional signs of possible underground workings in the area, a possible level cut is visible, though the portal appears to have collapsed and been backfilled. The associated tips are short and stubby, lying down slope of the level mouth. The tips associated with the quarrying are generally amorphous and lie to the south and west of the working area. There are signs that there may have been some on-site processing, with a possible platform below the main face in an embayment on the west side.

EA066.03, archaeological significance: B

This area appears to have been badly damaged and truncated to the south, and the construction of the modern road and widening of the original track has severed this area from that to the south, EA066.03, which appears to include some shallow surface workings, but consists mainly of tips generated by the larger area of workings to the north of the road (EA066.02). This area does include a culvert (EA066.08) which carries the road over a feature which may be a water channel, possibly a former scour, drain, or possibly a former level entrance. The structure forms an arch of roughly coursed stone with slightly rusticated voussoirs, but only the south side, is visible, the entrance on the north side of the road appears to have been filled in, this is the part of the area which has been most severely disturbed.

EA066.04, archaeological significance: B

On the east side of the cemetery, there is further extractive activity (EA066.04), though this appears to be on a smaller scale than area EA066.02. It appears to consist of small-scale shallow surface workings and quarrying, with small amorphous tips. There are also areas of possible crown-pit workings. A possible pit or shaft now forms a square depression, *c.*1.8m by *c.*2m, and at least 0.3m deep, with the interior filled with large boulders and pieces of wood. To the north of the main part of the area, are further shallow workings and very shallow depressions, with associated spoil. A curvilinear feature in this part may represent a trial pit, *c.*9m by *c.*8m and narrowing to *c.*1.5m on the south side. It is open on the southeast side, where there is also an area of exposed stone, and there is a crescent-shaped spoil tip to the north. A small scarped platform area measuring *c.*6m by *c.*2.5m, with an area of exposed stone on the down slope side also lies to the north of the area. The track which provides access to this area from the north runs roughly northwest-southeast and is *c.*2m wide by *c.*0.2m deep, is slightly sunken, and embanked at points on the down slope side, and is metalled for parts of its length. The southwest corner of the area, where the working appears to have been most intensive, contains a possible level (EA066.05); though this is not depicted on the 1st edition OS map (1878). A possible entrance cut is visible, facing east, though the entrance itself is now infilled, and there are large stones

scattered around the area. A possible secondary entrance or drain is visible to the south. This potential level may have been served by track or tramroad aligned northeast-southwest, EA066.06. Though the line is not shown on the 1st edition mapping, a reed-filled hollow is visible between tips and averages *c.* 1m in width.

EA066.07, archaeological significance: C/U

An additional area, EA066.07, not depicted on the 1st edition OS map (1878/80) as being extractive was visited due to its proximity. Aerial photographs indicate an area of generally disturbed ground, including a large east-facing quarry basin, in this area. The quarry has exposed faces with gullies indicative of hushing surviving and large boulders and areas of loose rock visible in the interior. Beyond this substantial quarry is an area of exposed of loose stone and scree with a number of small scoops with associated small stone heaps, typically *c.* 0.5m high by *c.* 1-2m wide; one example comprises an elongated triangle with rubble ‘spoil’ down slope. Evidence of graded stone was noted. A small quarry was noted in the far north of the area approached by a sunken reed-filled linear entrance passage. An area of stone clearance lies to the east of the area, probably the result of boundary construction as it is in close proximity to the boundary of the enclosed land. Above the area, a leat with a stone and earth bank on the down slope side contours the hillside; a small D-shaped structure, which may be a shooting butt, was noted within the channel. Access to this area is along a metalled track, with associated shallow quarry scoops on either side.

The area is likely to be related to the extraction of building stone or grit stone for milling, rather than ironworks’ related extraction; the quarries noted in area display very little associated spoil or waste. Further to the northwest are discrete small-scale (trial?) workings on a seam of coal, with prominent bare tips showing coal-rich material (not visited).

Table 44. Subsidiary points and polyline features in EA066.02, EA066.03, EA066.04, EA066.07

Numbers (see gazetteer for further details)	Type	NGR
EA066.05	Level	SO1383507964
EA066.06	Tramroad	SO1386707982
EA066.08	Culvert	SO1361207831
Under EA066.02	Possible level	SO1350508003 (6.4m accuracy)
Under EA066.04	Surface working, sub-circular, with spoil on north side	SO1372708057 (5.7m accuracy)

Table 45. Water management features within EA066.02, EA066.03 and EA066.07

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW206	Leat, Ashtree Coal Pit, Tredegar	Leat	From SO1275207986 to SO1359508316
IWW210	Leat, Cefn-goleu	Leat	From SO1276407678 to SO1374408049

Domen-fawr and Troed-rhiw-clawdd (see figure 10)

Extractive landscape: EA071.03 and EA085.07

EA071.03, archaeological significance: B, EA085.07, archaeological significance: B/U

Extractive landscapes EA071.03 and EA085.07 comprise a series of linear north-south aligned quarry faces on the east-facing slopes of Cefn Manmoel, up to c.550m in length, on the slopes above the former Ebbw Vale Park (now part of the festival park retail complex), just south of the site of the Victoria Ironworks. This extractive landscape (EA071.03) comprises an area of quarries and levels (coal) linked by incline and tramroad to Victoria Ironworks (1st edition OS), with further links to Victoria Colliery (Prince of Wales Pits) and beyond to Ebbw Vale Ironworks. One Old Level (coal) marked on 1st edition OS with spoil extending down side of track (tramroad disused by 1st edition OS. Internal tramroad to quarries shown on 1st edition, 2 engine houses named at head of incline. The southern part of the landscape (EA085.07) contained three Levels (coal), located east and down slope of quarries shown linked by tramroad to Victoria tramroad network on OS 1st edition. Track shown accessing upper quarry only with no tramroad link to quarries depicted on 1st edition, therefore quarries abandoned prior to 1880.

The most visible features in the area are the three linear quarries (EA071.03), aligned north-south, and three parallel linear quarries (EA085.07) with other small quarries aligned northwest-southeast, which contour the east flank of Cefn Manmoel; these appear to have supplied sandstone (Pennant stone of Pennant Series, Pennant Grit) probably for construction in the surrounding area. The five levels of the area depicted on the 1st edition OS map (and later levels) appear to have exploited the Red Ash/ Tillery Coal Crop.

Along the line of the quarry faces, small pits and scoops were noted, while some of the larger quarry faces displayed small trenches at their base, some of the quarry faces in the area also appear to have been scoured from above. One length of quarry face to the south (EA085.07) has a platform providing a level working area at its foot, c.16m long and up to c.0.75m high. The spoil tips lie down slope of the quarry faces, and are generally small, slumped and amorphous, including both fine and large blocks of waste material. The south part of the area included at least three levels and structures, probably workers' huts shown on the 1st edition OS map (1880); these were not located during the year 5 fieldwork (EA085.08, EA085.15, EA085.18, EA085.19, EA085.20, EA085.21, EA085.22, EA085.23).

EA071.02, archaeological significance: A?/B

Tramroad EA071.02, and its associated incline served the quarries along the east flank of Cefn Manmoel; the route of tramroad extended north-south along the base of the area (ie the eastern edge). Secondary branches served individual quarry faces and levels, along with a series of small trackways and barrow runs which lead off the tramroads. The track appears to have been lifted; no other features (such as stone pads) were noted during the fieldwork, apart from the embankment/tramroad formation, and occasional areas of associated revetting. Towards the south of the area the tramroad survives as a metalled track. The surviving tramroad formation varies in width, and also condition along its length. The tramroad has been revetted for much of the length on the west side by drystone walling which survives generally to around 5 courses. Two distinct phases of revetting are visible on the upslope side in places. At one point (SO 17011 06394) the tramroad formation has also been revetted on the down slope side.

EA085.05, archaeological significance: U

A pair of late 20th century platform features, EA085.05, aligned north-south and c.30m in length and 3m wide occupy the head of a former incline leading to workings at the southeast edge of the area, depicted on the 1st edition OS map (1880). The current features appear to relate to the remodelling of the route as a cable lift or 'ski-lift' (now removed) for the former Festival Park.

EA071.09, archaeological significance: B

The remains of a brick-built trackside building or hut (EA071.09) located on the west side of the tramroad at SO1701506369. The building is almost square (c. 3.5m long by c.3m wide) and survives to a maximum of c.2.3m in height, constructed of red and yellow frogged brick bonded with a very dark mortar. There appears to have been an entrance on the west side of the south wall, and a chimney has been built into the angle of the northwest corner. The build and the cartographic evidence indicate this is a relatively late feature, probably of 20th century date. To the south side of the building is a narrow trench running down the steep slope to the west; this feature has been revetted in stone (two phases evident, the most recent contemporary with the adjacent building).

EA071.11, archaeological significance: B

A level entrance (SO1699306538) was noted cut into the slope directly under the line of the tramroad. The level has a northeast-facing portal capped by a concrete slab, which carries the tramroad over. The portal entrance, c.1m high, has stone revetment walls, and a brick blocking, now breached. Above, c.12m to the southwest of the level entrance is a stanchion, c.1.9m square and c.2.1m tall, with Fe bolts protruding a further 0.5m above. This pillar, constructed roughly coursed stone with brick quoins and bonded with a grey mortar, may have been associated with an aerial ropeway. Around the base of the stanchion structural debris including frogged bricks and the remains of a concrete capping slab were noted.

A further c.100m to the north of the level entrance is a quarry embayment roughly 50m in length, associated with 2 sunken features, which have the appearance of shaft workings, one of which filled with large blocks of stone, has a potential void. To the south of the quarry embayment is a low brick structure, 7 courses high and capped with a pitched concrete capping.

A further c.120m to the north of this embayment is the remains of a further stanchion, c.0.6m in height, of brick and stone with four Fe holding rods. This is similar in style to that located at the level entrance and formerly carried an overhead feature, such as an aerial ropeway. This northern stanchion is associated with a low platform c.1.5m by c.2.7m at the side of the tramroad.

EA071.10, archaeological significance: A?/B

To the north is an iron rail feature, 3.35m in length and 0.2m in width, aligned west of and parallel to the tramroad. This feature comprises two protruding parallel lengths of iron set on a bitumen pad. At the midpoint is an upright cylindrical spindle c.0.4m high. On the north side of the spindle is an upright iron strip, bent over at an acute angle. This feature may be the base of a crane or pivot. It is not depicted on the 1st edition OS map (1880), or on the 2nd edition (1901), but there is a small rectangular feature on the line of the former tramroad in approximately this location shown on the 3rd edition OS map (1921). The tramroad itself has been dismantled by this date, and a possible interpretation is that this feature may have been associated with the widely spaced stanchions to the south, possibly part of an aerial ropeway?

EA071.07, archaeological significance: A?/B

This is the partly demolished remains of an engine house; stone constructed with brick details to doorways and fenestration, EA071.07, which is located in the vicinity of various buildings labelled as engine houses on the 1st edition to 3rd edition OS maps.

The surviving engine house is comprises two interconnected rectangular ranges, built against the slope. The smaller of the two to the southwest is constructed of stone, roughly dressed and coursed blocks with large dressed stone quoins. An original entrance, now blocked by a fill of roughly coursed stone slabs and random rubble, is located within the east wall. The only brick used in this building appears to be associated with later alterations, such as the doorway inserted in the south wall, the quoins of which are brick. An entrance in the north wall of this smaller structure provides an internal access to the larger and probably later range, c.8.5m by c.6.7m, which houses a large cylindrical boiler, c.5.1m long and more than 0.5m in diameter, still *in situ* and aligned parallel to the east wall. This powered the incline winding gear, and although rusted, remains largely intact.

The larger range is constructed of large coursed rectangular blocks, with brick quoins to angles and openings. The main entrance is located on the east, three openings in the south wall, the most eastern of which opens directly onto the end of the boiler, and one of which opens onto the smaller 'annexe' building. There was also a possible opening in the west and north walls, now collapsed. Rubble from the demolished walls includes stone and both red and yellow frogged bricks, some stamped "Ebbw Vale". A large iron incline wheel, c.2.4m in diameter, lies out of *situ* just to the south of the building.

The surviving remains of the engine house are likely to be of relatively late date as the features identified during the fieldwork do not tie in directly with structures identified from the 1st to 3rd edition OS maps, and probably dates to latter part of the 1920s or 1930s. The 1st edition OS maps (1880) depicts two engine houses; one to the south, L-shaped, and consisting of two adjoining structures and a small lean-to (?), that to the north a single rectangular structure, between the two are two conjoined slight L-shaped features associated with the upper of two main tramroads serving the then active quarry, a tramroad spur leading to the quarry face lies upslope. The incline, west of the northern engine house is connected to the lower of the main tramway serving quarries (EA085.07) at the southern edge of the area. The 2nd edition OS map (1901) shows the quarries disused and the northern engine house shown on the 1st edition OS has been removed and the southern partly demolished. A smaller engine house, rectangular with a stack offset to the southwest had been erected by this date just south of the site of the northern engine house depicted on the 1st edition, while a linear structure had been erected to the east, up slope of the incline, the associated tramroad south has been lifted. An old coal level entrance is shown just to the west of the northern end of the linear structure. By the survey of the 3rd edition OS map (1921) the layout remains unchanged, though the engine house may have been disused.

The HER record refers to the two engine houses (PRN 06799g) shown on the 1st edition OS, and lists their condition as destroyed, buried remains may, however, survive.

EA071.08, archaeological significance: A?/B

To the southeast of the engine house is a curvilinear length of brick-faced revetment walling, located along the east side of tramroad EA071.02 at the head of the incline. The walling, c.11.4m north-south, is faced with red and yellow brick (max 10 courses) and dressed stone with a rubble core. Along its west side are five small niches (0.65m wide at the front and 0.3m deep, with a step in the interior, narrowing the niche to 0.45m).

Table 46. Subsidiary points and polyline features in EA071.03 and EA085.07

Numbers (see gazetteer for further details)	Type	NGR
EA071.02	Tramroad	SO1691105507 to SO1784507469
EA071.07	Engine House	SO1690206806
EA071.08	Walling	SO1691206801
EA071.09	Brick hut and revetted trench	SO1700406457
EA071.10	Trackside mechanism	SO1696206634 (2.4m accuracy)
EA071.11	Level and stanchion	SO1699406560 (6.9m accuracy)
EA085.05	Platforms	SO1702706339
Under EA071.03	Revetting of tramroad	SO1701106394
Under EA071.03	Quarry embayment	SO1696206634 (2.4m accuracy)
Under EA071.07	Incline wheel	SO1690506790 (not <i>in situ</i>)

6.2 *Water Management Features Visited During Year 5 Fieldwork*

The water management features of the area have been placed in and “sub-system” groups and divisions thereof, some 12 in all, for the purpose of this report; it should be noted that this has been done for convenience and does not reflect actual water management systems, which were far more extensive in reality. The water management system associated with Nant-y-glo, Beaufort and Ebbw Vale ironworks historically comprised an extensive network extending from Mynydd Llangattwg in the northeast and took in the east and west facing-slopes of the Ebbw fawr and Ebbw fach Valleys, and appears to have linked into to the system which supplied Sirhowy Ironworks to the west. Most of the elements visited during year 5 were part of the wider system serving Nant-y-glo, Beaufort, Ebbw Vale and Sirhowy ironworks. A small remnant of a system, which potentially supplied Tredegar Ironworks, was visited at Cefn-goleu.

Waun-y-pound and Rhyd-y-blew (see figure 12)

Archaeological significance: A?/B

The Reservoirs at Waun-y-Pound now survive as a remnant of a formerly more extensive system, which was developed to serve the Sirhowy Ironworks and the Beaufort Ironworks, and which was later extended east and south to serve the ironworks and later steelworks at Ebbw Vale. The reservoirs are located within part of the extensive mineral tracts which were leased to the Sirhowy Ironworks, confirmed by an indenture of 1788 (Maybury 1, 232). It is likely that many of the reservoirs in the ironworks supply network had a dual (or even multiple) function and also supplied water balance systems, such as identified at nearby Rhyd-y-blew (cf. Oakey 2005, 17-18, and 23).

Two shafts are shown on the 1st edition map (1880) down slope and east of the Waun-y-Pound reservoirs; an Old Shaft (Coal) at SO1557910787 and a Shaft (Coal) at SO1538911064). The former shaft immediately southeast of the reservoir group had an adjacent header pond, which appears to have been linked to the reservoirs by leat.

The Tithe plan of 1839 shows the two main reservoirs IWW240 and IWW241, their outlines similar to their current extent. The only difference is shown on the 1st edition map where reservoir IWW240 is depicted with a linear extension at its southern extent. The Tithe plan is insufficiently detailed to show the leat system, and whilst the 1st and later edition OS maps give an indication of the leats, underground features such as culverts and pipes are not usually shown, which places obvious limitations on interpretation (see also Oakey 2005).

The reservoirs and leats at Waun-y-Pound originally comprised five interconnected reservoirs, IWW240, IWW241, IWW242, IWW244 and IWW245. Of these, the larger three, IWW240, IWW241 and IWW244 survive, while elements of IWW242 appear to survive. The original bank on the south side of the reservoir survives, and forms the bank of a channel, which connects the original leat IWW251 with a modern concrete-lined outflow for the reservoir IWW240. IWW245, the smallest of the original reservoirs, appears to have been infilled, and no trace remains on the ground. The largest reservoir, IWW240 survives little altered in outline, though the curvilinear sloping stone lined banks have been faced with concrete. The arm which extended to the south on the 1st edition OS map appears to have been removed, and a modern concrete-lined leat, IWW910, established along this line. The adjacent reservoir immediately to the east and down slope of IWW240 is reservoir IWW241. This appears to be generally unaltered and largely in their original state; the stone-faced embankments of the reservoir have not been faced in concrete. The smallest of the reservoirs to survive lies down slope to the east,

IWW244; this again appears to be unaltered from the extent shown on the 1st edition OS map, and retains much of its earlier form.

The majority of the connecting leats, IWW238, IWW250, IWW251, and IWW252 appear to survive in good condition. IWW250, which connects the reservoirs IWW240 and IWW241, follows its original line, though its west end has been re-profiled and lined with concrete. Originally depicted as a much shorter channel on the 1st edition OS map, leat IWW251 now extends further to the west into the area where reservoir IWW242 once stood; the leat now runs behind the line of the former reservoirs south embankment. This is a substantial channel with a large bank to the south side; the bank is especially substantial to the west end where it comprises the bank of the former reservoir. This channel directs the overflow for the large reservoir IWW240 to the west. Although reservoir IWW245 has now been filled in, its associated leat IWW252 (which connected it to leat IWW251) survives as an east-flowing water channel with a slight bank. The feeder Leat IWW238 originally flowed east into the south arm of reservoir IWW240 (the latter now altered to form concrete channel IWW910) from the wider system to the west; leat IWW238 has been reduced in overall length, the western extent of the feature lost to development further west, and what survives may have been reconstructed. Leats IWW909 and IWW910 are concrete lined (flat bottomed V-shaped channels) and are likely to belong to the same phase as the concrete facing of the embankment of reservoir IWW240. IWW910 follows the line of the former south arm of reservoir IWW240, connected to leat IWW238, whilst leat IWW909 acts as an overflow channel draining into IWW250.

Following opencast and reclamation operations carried out during the 20th century in the area, little now remains of the adjacent workings, shown in detail on the 1st edition OS map (1880), as opencast quarries and associated tips; two linear areas of lobed tips (EA00041.03) at SO1509610827, and the Waun-y-Pound water management features now survive in isolation.

The Rhyd-y-blew ponds, IWW257 and IWW258 also associated with the Sirhowy and Beaufort Ironworks, and the system which extended south to serve Ebbw Vale, were part of a larger complex depicted on the 1st edition OS maps. The surrounding area has been opencasted and developed, and these two ponds now survive as isolated fragments. The bank of the larger pond, IWW257, has been breached and the pond has been drained, the interior now appears to be a building site. Although the smaller pond, IWW258, was not accessible during the site visit, it was visible from a distance and appears to survive below the larger, drained reservoir.

Table 47. Visited features in Waun-y-pound and Rhyd-y-blew sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW238	Leat Bryn-pica, Sirhowy	Leat	From SO1461410451 to SO1518210600
IWW240	Reservoir, Waun-y-Pound	Reservoir	SO1517110745
IWW241	Reservoir, Waun-y-Pound	Reservoir	SO1534310768
IWW242	Reservoir, Waun-y-Pound	Reservoir	SO1533910817
IWW244	Reservoir, Waun-y-Pound	Reservoir	SO1546210771
IWW245	Reservoir, Waun-y-Pound	Reservoir	SO1555510806
IWW250	Leat, Waun-y-Pound	Leat	From SO1518310592 to SO1530410735
IWW251	Leat, Waun-y-Pound	Leat	From SO1536310793 to SO1548710860
IWW252	Leat, Waun-y-Pound	Leat	From SO1546510825 to SO1556010836

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW909	Spillway of reservoir IWW240	Spillway	From SO1521310654 to SO1524510670
IWW910	Leat, Reservoir IWW240	Leat	From SO1518710629 to SO1520010667
IWW257	Rhyd-y-blew Pond	Reservoir	SO1599611136
IWW258	Small Rhyd-y-blew Pond	Reservoir	SO1609711026

**Winchestown, Tai-Humphrey-Hughes, and the sub-system above Ebbw Vale (see figure 13)
Winchestown and Tai-Humphrey-Hughes sub-system. Archaeological significance: B**

This is the remains of an extensive system which supplied Nant-y-glo Ironworks, but the area to the west has been reclaimed, while there has been extensive development to the east which is likely to have largely destroyed any associated features.

The large reservoir, IWW470 partially survives, though it has been substantially altered. The outline of the south side remains the same, but it has been much reduced to the north. The north part of the reservoir has been filled in, and the land has been developed, and the reservoir now seems to exist as an island of survival which has been isolated from other related features.

Within the area of extractive activity, EA042.02, several small water management features also survive, though without much coherence. A short length of leat, IWW481, survives, running parallel with the footpath which follows the line of the former tramroad EA042.02.01. Two springs in the same area, IWW485 and IWW538, appear to survive as active features with the extractive landscape.

To the north of this, and isolated from it by opencasting, is a system of reservoirs and leats depicted on the 1st edition OS map and labelled as being associated with Nant-y-glo Ironworks. The three interconnected reservoirs, IWW459, IWW460 and IWW466 are now within the bounds of a community park, and although the largest of these, IWW466, survives in a similar shape to the original reservoir, the area has been substantially altered, and the reservoir has likely been largely reworked. This was fed by a smaller reservoir upslope to the west, IWW459, which survives as a drained feature. The bank on the east side has been breached, and the interior of the former reservoir is now a low-lying boggy area. Between these two reservoirs was a series of outflow leats, IWW461, IWW462, IWW463, IWW465, and the third small reservoir, IWW460. This area between the larger reservoirs has been substantially reworked and altered, and none of these features now survive. An apparently natural stream now drains the boggy area of the former IWW459 into the large reservoir IWW466. The area where these channels originally flowed is now spanned by a large modern feature bridge which is high above the sunken gully and the breached bank of IWW459.

On the other side of the large reservoir, IWW466, the outflow leat IWW468 originally connected it with another reservoir to the east, IWW467, though this has now been destroyed. It appears to have originally been diverted under the line of the railway, and the line can still be traced to this point. The surviving channel, *c.*2m wide and *c.*1m deep, is most likely a reconstructed feature. The channel is well grassed-over, and although it follows the course of the original leat as depicted on the 1st edition OS map, it may be closed off at the west end, or possibly connected by a culvert under the path.

Immediately to the east of the large reservoir IWW466, is a smaller pond, IWW627, which has been extended from a very small area depicted on the 1st edition OS map. This has the appearance of having been partially landscaped, and the pond suffers from fly tipping.

Table 48. Visited features within the Winchestown and Tai-Humphrey-Hughes sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW459	Reservoir, Tai-Humphrey-Hughes	Reservoir	SO1790311478
IWW460	Reservoir, Tai-Humphrey-Hughes	Reservoir	SO1803911436
IWW461	Leat, Tai-Humphrey-Hughes	Leat	From SO1798611432 to SO18170 11458
IWW462	Leat, Tai-Humphrey-Hughes	Leat	From SO1797911414 to SO1802511452
IWW463	Leat, Tai-Humphrey-Hughes	Leat	From SO1799611340 to SO1822011452
IWW465	Leat, Tai-Humphrey-Hughes	Leat	From SO1805211417 to SO1812211427
IWW466	Reservoir, Tai-Humphrey-Hughes	Reservoir	SO1826311371
IWW468	Leat, Twyn-cynnordy	Leat	From SO1840211431 to SO1870811473
IWW470	Reservoir, Winch's Row	Reservoir	SO1881511189
IWW481	Leat, Winch's buildings	Leat	From SO1832010912 to SO1844210987
IWW485	Spring, Winch's buildings	Spring	SO1827410933
IWW538	Spring, Winch's Row	Spring	SO1850910883
IWW627	Pond, Tai-Humphrey-Hughes	Pond	SO1840911334

Bwlch-y-garn, North. Archaeological significance: A?/B

There is an extensive network of leats (IWW622) on the west-facing slopes above Ebbw Vale, extant, though not active as water channels. It is made up of several substantial ditches and banks, which appear to have been utilised to scour the worked faces of area EA042.01.10, as well as to supply the Long Pond system further south which was part of the water management system associated with Ebbw Vale Ironworks.

The main leat in the area appears to double up as a 'cloddiau'-type field boundary, with a very substantial ditch which varies in width, with a large stone-faced bank on the south side, which is *c.*1.6m high from the base of the ditch, and *c.*0.2m from the other side. This bank is *c.*1m wide at the top and is spread to *c.*3m at the base. Several subsidiary channels converge with this main one. One, *c.*1m wide and 0.3-0.4m deep, runs parallel with it on the north side before forming a large curve to join it, while another joins it from the south (*c.*0.3m deep and 0.5-0.6m wide with a spread bank on the down slope side *c.*1m wide). This leat system exists in an area which is primarily agricultural in character, and the main east-west channel is cut at its east end by a second embanked linear feature, which may be a path, trackway or field boundary.

Two further leats, IWW920 and IWW921, form the northern surviving part of the system; the former contours the slope at the north end of the ridge and appears to have flowed north. The north end of this channel is cut by the workings of Buff Clay Patch, which is depicted on the 2nd

edition OS map (1901). It is also cut in two separate places along its length by a cutting for the tramroad EA042.01.07. The 1st edition OS map, however, shows the line of the leat crossing the tramroad with a dashed line, which may indicate that there was some kind of bridge or aqueduct carrying it over the cutting. Leat IWW921 runs parallel with the main east-west boundary ditch/lead, on its north side, flowing east-west for c.30m before turning sharply to the north and continuing along the slope.

Table 49. Visited features within the Bwlch-y-garn, North sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW622	Leat System, Ebbw Vale	Leat	From SO1749209355 to SO1781210094
Under IWW622	Convergence of main E-W feature with scour from the south	Leat convergence	SO1767009887 (7.7m accuracy)
IWW920	Leat cut by Buff Clay Patch	Leat	From SO1768210150 to SO1783210321
IWW921	Dogleg leat above Ebbw Vale	Leat	SO1774109853 to SO1778710066
Under IWW921	Dogleg in leat IWW921	Dogleg in leat	SO1776009881 (6.3m accuracy).

Twyn Blaen-nant sub-system (see figure 14)

Archaeological significance: A?/B

The water management features in the area of the Twyn Blaen-nant opencast trenches appear to have been primarily used for scouring rather than for water supply, though is considered likely to have linked in to the wider supply system, now fragmented, associated with Nant-y-glo Ironworks. A substantial leat (IWW919) is depicted on the 1st edition OS map (1880), flowing along the edge of the ridge from the east to west, curving north of the settlement of Waun-y-pwll-dwr and flowing north down the slope from the ridge. It makes a 90 degree turn to the west at the edge of the trench, and continues as a major embanked feature running parallel and above the trench face (Trench 1). There is evidence the system has been in use over a sustained period of time, and has had to be continually cut further back up slope from the edge as the working faces, which have been continuously eroded through the action of scouring. At the eastern end of the Trench 1, leat IWW919 converges with another channel running down slope from the south, forming the head of a scour, where between the broken line of the leat as it approached the quarry face, a mound of earth and stone was noted at the break of slope; this feature is the site of a double hushing sluice. At this point two or three parallel banks and channels were visible, these represent additional leats constructed successively further up slope to replace those eroded by the action of hushing/scouring. A possible blocking embankment also noted at this point. The action of scouring/hushing has created curvilinear banks on the quarry face with curved ‘embayments’ at the foot of the face, below the hushing sluice.

Table 50. Visited features within the Twyn Blaen-nant sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW919	Waun-y-pwll-dwr scouring leat	Leat	SO1994510876 to SO2141711452

Brynmawr and Clydach Terraces sub-system (see figure 15)**Pont ar Lwnc Area. Archaeological significance: B**

Around the quarries of area EA042.09.32, is a series of water management features depicted on the 1st edition OS map (1880); these were part of the more extensive water management system associated with Nant-y-glo Ironworks. Key to this area was the Blaen-y-Cwm Reservoir or Blaen Clydach Reservoir IWW436 (see Year 3 report), which drained the vast areas of open mountain and quarry workings to the north and northeast. The reservoir itself was substantially altered with construction of a much enlarged reservoir after 1918 (Oakey 2005, 18). Leat IWW437 exited the reservoir at the northwest end of the dam to run southwest; sections of this feature have survived despite extensive landscaping and reclamation in the area. To the northwest of the reservoir, a series of quarry workings EA042.09.32, are drained by a number of north-south aligned leats, which drain into a leat (leat system IWW915) feeding reservoir IWW436. A series of culverts (IWW901-IWW905) carries the bed of west-east aligned tramroad EA042.09.43, across the leats draining the workings. At least sections of some of the latter leats, downstream of the culverts, are stone-lined. From west to east the culverts are as follows. Culvert IWW901, c.2m tall by c.3m wide retains small abutments, though has partially collapsed; the associated channel is c.1m wide and between 3m and 4m wide at the top, with a substantial bank to either side, though the one on the west side is slightly larger. The next culvert to the east, IWW902, has a stone lintel visible on the upstream side, while the next, IWW903 is a cast-iron pipe, 0.6m in diameter, 6.4m in length and 0.07m thick, which has been roughly broken on the downstream side. Culvert IWW904, further to the east, is constructed of squared stone blocks, and has a large squared-off stone lintel, of which 1.1m in length and 0.55m in width is exposed. The abutments and lengths of the channel are stone-lined; c.4.5m of stone is exposed beyond the tramroad. The easternmost of the culverts IWW905 appears to be subsidiary to IWW904, and is an insubstantial structure of rough stone blocks, 1.1m wide, around a metal pipe which is just visible on the south side and is most likely cast iron. This may represent a later repair to an earlier collapsed culvert feature. To the north of the Quarries EA042.09.32, is an additional leat IWW915, which eventually drains into leat IWW438 (see below) the main feeder for the Blaen Clydach Reservoir (IWW436). Leat IWW924, which flows in an east southeast direction, drains areas of boggy ground to the north of the workings, but also appears to have been used for scouring the quarry faces, and very ephemeral remains of hushing channels were noted during the fieldwork leading to upper edge of the quarry.

Table 51. Visited features within the Pont ar Lwnc area of the Brynmawr and Clydach Terraces sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW437	Leat, Blaen-clydach	Leat	From SO1678612262 to SO1737313161
IWW901	Culvert under tramroad (EA042.09.32)	Culvert	SO1690413670
IWW902	Culvert 2 under tramroad EA042.09.32	Culvert	SO1699813690
IWW903	Culvert 3 cast iron pipe	Culvert	SO1706913693
IWW904	Culvert 4 stone lintel	Culvert	SO1714313665
IWW905	Culvert 5 (partially collapsed stone)	Culvert	SO1717113648
IWW915	Leat system north of Pont ar Lwnc	Leats	From SO1691413681 to SO1737813159

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW924	Leat, west of Gwaun-y-Ffa	Leat	From SO1692013983 to SO1766813706

Beaufort Hill. Archaeological significance: B

The Beaufort Hill sub-system consists of two groups of reservoirs and remnants of associated leats, which interconnect the reservoirs and their supply to north at Blaen Clydach. This sub-system has been isolated from the extensive water management remains further north by a large area of reclamation and the construction of the Heads of the Valleys Road. The reservoirs at Beaufort Hill, or Waun-dew was part of the extensive system depicted on the 1st edition OS map (1880), constructed to supply Nant-y-glo Ironworks and its mineral field. The ponds (IWW443, IWW445 and IWW446) were supplied via leats IWW444 and IWW442 from Blaen Clydach Reservoir (IWW436, see Year 3 report), which lies to the north, beyond an area which has been subjected to opencast and reclamation work. The Blaen Clydach Reservoir, also known as Blaen-y-Cwm Reservoir was considerably enlarged after 1918 (Oakey 2005, 18).

The two surviving ponds (IWW445 and IWW446) ‘Upper and Lower Boat Ponds’, are considered to date from between 1796 and 1820, and were part of a series of 5 feeder ponds for Nant-y-glo ironworks. The reservoirs now form part of the Beaufort Hill community nature reserve, the “Beaufort Hill Ponds and Woodland Preservation Society”, and appear intact and in good condition, providing wildlife habitat and a recreational space for the local community. Reservoir features do survive, however it is more likely that these relate to the period when the system was remodelled to supply the Ebbw Vale Steelworks, further work appears to have been carried out as part of the recent community scheme. The dam of reservoir IWW445 survives, and a sluice is visible on the south side. The embankment of IWW446 is intact, though now faced in concrete, while the sluice gate appears to have been renewed, and is housed in a modern brick structure. The third of the reservoirs at Waun-dew, IWW443, has been infilled; a footpath now cuts the original outline.

Most of the original leats (IWW442, IWW444, IWW447, IWW448 and IWW449) connecting these three reservoirs survive. Leat IWW442, which supplied this group of reservoirs from Blaen Clydach Reservoir IWW436 to the north, survives as an active water channel, though the majority of the area it runs through has been reclaimed, and the feature has been partly reconstructed in this area. IWW444 supplies the upper of the two surviving reservoirs, IWW445 and survives as a substantial channel with a bank on the down slope side, to the east. IWW447, connecting the two surviving reservoirs, survives in part as a concrete spillway, although partly re-faced in concrete the original stone lining and the earth cut are visible in places. Leat IWW448, which originally connected the now destroyed curvilinear pond (IWW443) with leat IWW447 and pond (IWW446), survives. Leat IWW449, which flowed for a short distance from the settlement of Ty-coch to connect with leat IWW442, has been disturbed for much of its length by landscape renewal and has been reconstructed.

A second, smaller complex of reservoirs lies to the east; this is part of the same system serving Nant-y-glo, and was also originally supplied by the Blaen Clydach Reservoir IWW436, which lies to the northwest. Some of the surviving features in this complex appear to be in their original condition (post-conversion of the system to supply Ebbw Vale Steelworks).

The upper of the two surviving reservoirs, IWW451, (known as the Black Pond or Lower Black Pool), retains a fairly insignificant earth embankment *c.*2m wide at the top and *c.*4m wide at the

base, which has been breached; it is unclear, however, whether this feature is original, or a reconstruction of the original reservoir made as part of the post-opencast landscape restoration. A substantial stone-revetted embankment carrying a track/tramroad and parallel stone-faced bank was noted adjacent to the south. Reference to the 1st edition OS map depicts a track at this location immediately south of the reservoir dam. It is therefore likely that the embankment and stone-faced bank could represent the actual remains of the dam belonging to the former reservoir IWW451. In which case, the existing reservoir with its earthen bank just to the north would in fact be a reconstructed feature. The aforementioned stone-faced embankment contains a culvert, c.0.6m wide with a segmental-headed stone arched on the south side and now partially collapsed, which carries leat IWW454 (see below). Leat IWW454, c.1.2m wide at the base and 0.6m deep (maximum), is stone-lined on the north side of the stone embankment, and is probably the original spillway of reservoir IWW451. This feature was linked to a leat which ran just east of and parallel to the reservoir, in turn supplied by leat (IWW453), now destroyed. This system allowed the option of letting the flow bypass reservoir IWW451, directly into leat IWW454, which flows primarily to the south to supply reservoir IWW458. Various leats feeding into leat IWW454 appear to have drained the adjacent working area to the east, EA042.03.01.

Reservoir IWW451 was originally linked to an outflow of the Blaen Clydach Reservoir (IWW436) via leat IWW452, and was also supplied by further channels, which drained the surrounding slopes. Leat IWW452 (and its associated reservoir IWW424) on Waun-rydd has been for the most part destroyed by 20th century reclamation work. Part of the leat has, however, been reconstructed on a similar alignment within the ‘restored’ landscape.

Further south reservoir IWW458, ‘the Farmer’s Pond’, survives in good condition; its spillway (IWW626) has been faced in concrete, as part of alterations carried out for Ebbw Vale Steelworks, though the original stone construction is visible beneath. The reservoir IWW458 appears to have also been supplied via leat IWW457 and a small holding pond IWW456 to the north, located at the western end of the stone faced embankment of reservoir IWW451. This small pond, IWW456 no longer survives in its original form, though its location is indicated a boggy rush-filled area.

Table 52. Visited features within the Beaufort Hill area of the Brynmawr and Clydach Terraces sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW442	Leat, Ty-Coch	Leat	From SO1732812078 to SO1761313039
IWW443	Reservoir, Waun-dew	Reservoir	SO1724711909
IWW444	Leat, Ty-Coch	Leat	From SO1745312103 to SO1752712271
IWW445	Reservoir, Waun-dew	Reservoir	SO1741212031
IWW446	Reservoir, Waun-dew, “Lower Boat Pond”	Reservoir	SO1749911877
IWW447	Leat, Waun-dew	Leat	From SO1731011868 to SO1734011961
IWW448	Leat, Waun-dew	Leat	From SO1729011886 to SO1732611937
IWW449	Leat, Ty-Coch	Leat	From SO1734512149 to SO1751412439
IWW451	Reservoir, Bryn Pit	Reservoir	SO1799712369

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW452	Leat, Bryn Pit	Leat	From SO1762012421 to SO1801412811
IWW454	Leat, Brynmawr	Leat	From SO1799712092 to SO1805512440
IWW456	Reservoir, Bryn Pit	Reservoir	SO1800512279
IWW457	Leat, Brynmawr	Leat	From SO1790312077 to SO1798612285
IWW458	Reservoir, Brynmawr	Reservoir	SO1794312066
IWW626	Leat system, Brynmawr	Leat system	From SO1801711931 to SO1808412191

Brynmawr North. Archaeological significance: A?/B

The two Beaufort Hill sub-systems, dealt with above were originally part of and supplied by the extensive water management network on the unenclosed common of Mynydd Llangattwg, which includes the current sub-system Brynmawr North on its southern flanks. The water management features in this area are again associated with the Nant-y-glo Ironworks.

The largest water supply reservoir within this area is Blaen-y-Cwm or Blaen Clydach Reservoir (IWW436); whilst this has been substantially altered and enlarged (c.1918), the associated leats have generally survived. The main feeder, IWW438 which extends southwest to the reservoir is survives on largely the same alignment as shown on the 1st edition OS map (1880), and remains instrumental in draining an extensive water catchment area. This feature extends as far as the Pwll-Gwy-rhoc Pond (also known as Black Pond) on Mynydd Llangattwg at an altitude of c.500m (see figure 18a). The main feeder comprises a man-enhanced or canalised stream/leat, which draws on an extensive network of tributary streams, leats and drains, including IWW924 to the west. This system is extensive and makes good use of both natural and man-made watercourses, for the purposes of both extraction (hushing and scouring), and ironworks water supply. The surviving remains of the system are comparable with the Dowlais Free Drainage system in extent and also in quality, with the added dimension of numerous surviving early scouring and hushing features (hushing reservoirs, leats and scours). The water management network at Brynmawr North has developed over a considerable period with its origins predating the advent of coke-fuelled ironworks in the Heads of the Valleys area, and the use of hushing and scouring in the area is long established. Cartographic evidence indicates the area has a long history of extractive exploitation; a plan of 1760¹⁶ shows workings in the area east of Blaen Clydach (near the current site of Clydach Terrace) and old mine workings to the west and south west of Coedcaemawr, which are described as old, and remains of particularly deep and extensive hushing and scouring channels in both these areas concurs with the documentary evidence.

The line of the spillway (IWW439) of the earlier reservoir at Blaen Clydach (IWW436) appears to be preserved in the that of the existing spillway belonging to the enlarged reservoir; the replacement channel is concrete-lined and runs from the 20th century barrage on the northeast corner of the reservoir into the Clydach Dingle and the River Clydach (IWW441), near the holding of Blaen Clydach. Another channel (IWW440) is shown running parallel to the spillway

¹⁶ A Plan of Blaen-clydach & Coedgaemawr, in the parish of Langattock'. p. 72 [Manor of Crickhowell]' in a 'Survey of the manors & lordships of Crickhowell and Tretower, in the county of Brecon' by Meredith Jones. 1760. **Badminton Vol. 14 143/1/5.**

between the reservoir and the feeder leat IWW438, today this area is occupied by the extended reservoir.

Many of the water management features in the area of Brynmawr north and around Clydach Terrace appear to have been utilised extensively for scouring workings than for water supply. A preliminary interpretation of the water management system at Brynmawr North, based on the 1st edition OS map and aerial photographic mapping, gives an indication of the heavily scoured nature of the area, with numerous scouring channels, frequently 'braided', exiting both hushing reservoirs and leats (see figures 18a and 18b). At the western edge of Gwaun-y-Ffa two interconnected diversionary leats (IWW922 and IWW923) extend around the edge of the extractive area EA042.09.02 and the remains of small subsidiary channels or hushing leats extend towards the working face and continue over the break of slope of the quarry edge as scours. Leat IWW923, *c.*0.5m deep and *c.*1.7m wide, retains a stone and earth embankment, *c.*0.6m high, *c.*2.5m wide at base and *c.*1.3m wide at top, on its downhill side.

The canalised stream of Nant Gwaun-y-Ffa, IWW900, has also been manipulated to maximise its potential for scouring. The 1st edition OS map (1880) depicts it flowing southeast down the mountain and turning sharply, almost doubling back on itself to contour the slope and follow the southern edge of the workings within EA042.09.02. The sharp turn in the line of the watercourse indicates an artificial diversion in its course. An earlier course is likely to have continued on a northwest-southeast alignment down the main scour to drain into the Clydach Dingle just north of where Clydach Terrace now stands; the previous line preserved on the 1st edition map as a linear series of ponds (IWW916) at its highest point and as a major scour further down slope within EA042.09.09 and beyond. Area EA042.09.09 also appears to have been scoured by channels from the east. These scouring channels, IWW912, IWW913 and IWW914 flow from east to west over the higher unworked area, and appear to have originated in an area later interrupted by workings and tips within EA042.09.12, as a result only the western parts over area EA042.09.11 survive. IWW912 branches into two channels at the west end, with a subsidiary branch which flows south from the main one for a short distance before entering the quarried area of EA042.09.09. To the south of this scouring channel, leat IWW913 runs parallel with the west edge of area EA042.09.11, *c.*3m from the edge of the area of workings. This channel is *c.*0.75m wide and *c.*0.25m deep at the point at which it runs over the edge of the area into the quarry. A further leat, *c.*3m in width (IWW914), lies to the east and runs along the southern boundary of area EA042.09.11. The source of this leat or channel, which flows northeast-southwest, is the area of workings in area EA042.09.12, further to the east. Area EA042.09.15 to the south contains the impressive embankments (see EA042.09.48 above) of a large scouring reservoir, now largely drained, the origin of the extensive area of hushes and scours to the south.

The workings along the eastern side of EA042.09.12 appear to have been scoured, in part by a system of leats and scouring embankments IWW917 located in the boggy defile to the east, largely obscured by rushes, which extends south to the Figyn-fawr Pond. Two embankments were noted in the area during the field visit, the southern of which was visible as spread earth banks *c.*0.5m high, *c.*7m wide and visible for *c.*32m, running northeast-southwest. The main north-south feature is a leat which runs parallel along the northeast edge of the ironstone quarry workings EA042.09.12. It drains an area above the workings, possibly the location of a scouring reservoir (?), flowing south into Figyn-fawr Pond. The latter, depicted on the 1st edition OS map (1880), appears to have been removed by 20th century opencast workings. The Figyn-fawr Pond itself appears to have been used to scour the quarries and cuttings of EA042.09.12, and potentially the area of workings immediately southwest of Coedcaemawr within EA042.09.15. In addition the pond formed a link in the supply of water to the hushing reservoir IWW918, within the western boundary of the Nant-melyn area (see figure 18b).

Table 53. Visited features within the Brynmawr North area of the Brynmawr and Clydach Terraces sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW438	Feeder, Blaen-clydach	Leat	From SO1692013006 to SO1778013983
IWW439	Leat, Blaen-clydach	Leat	From SO1774313285 to SO1791313303
IWW440	Leat, Blaen-clydach	Leat	From SO1774213290 to SO1775213320
IWW441	River Clydach	River	From SO1790813134 to SO1794213339 (digitised length)
IWW900	Nant Gwaun-y-Ffa	Stream/leat	From SO1832713973 to SO1816513632
IWW912	Scouring leat, EA042.09.11	Leat	From SO1875613452 to SO1894213531
IWW913	Scouring leat, EA042.09.11	Leat	From SO1876913344 to SO1889313426
IWW914	Scouring leat, EA042.09.11	Leat	From SO1889313337 to SO1898613449
IWW916	Gwaun-y-Ffa Ponds	Ponds	SO1865213528
IWW917	Figyn-fawr scouring system	Leats	From SO1940013326 to SO1954713549
IWW922	Diversion leat north of EA042.09.02	Leat	From SO1774013860 to SO1800913998
IWW923	Diversion leat east of EA042.09.02	Leat	From SO1793413957 to SO1831913697
IWW924	Leat, west of Gwaun-y-Ffa	Leat	From SO1692013983 to SO1766813706

Nant-melyn. Archaeological significance: A?/B

This area contains the significant remains of a scouring system, located just within the enclosed land, on the west bank of the Nant-melyn stream, in the west part of EA042.06.03. The main feature comprises a former scouring reservoir, NPRN 292033, defined by a semi-circular earth bank *c.*100m long and enclosing an area *c.*60m by 30m. This bank is *c.*2m high and *c.*4.5m wide at the base, narrowing to *c.*2m wide at the top, and has a *c.*2m wide breach in the south side. A *c.*1m wide channel crosses the enclosure and passes through this breach. A series of three scours (NPRN 292028) is visible issuing from the breach. These are between 2.5 and 3m wide at the top and 1.5 and 2m wide at the base, and are up to 2m deep. These channels, or hushing channels divide into three at the breach, the main channel running south-south-east for up to *c.*340m, the others southeast to scour quarry faces within the adjacent Cwm Nant-melyn, just below the scouring reservoir. The main hushing channel divides into three channels at its southern extent, where it flow has been used to scour further quarry faces in the Cwm Nant-melyn. The feature, which has been separately interpreted as a ‘drainage channel’ (NPRN 292049), and is described as ‘a narrow, steep-sided valley running north-south, and very substantial, 2.5m deep, 7m wide at the top and 1m wide at the bottom, is a good example of its type, a hushing scour. The hushing reservoir and scours represent particularly rare survivals and

are considered good examples of their type, and are of considerable significance as early mining features.’

Table 54. Visited features within the Nant-melyn area of the Brynmawr and Clydach Terraces sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW918	Nant-melyn scouring system	Reservoir and scours	From SO1973812598 to SO1995412952

Brynmawr Water Works Reservoir. Archaeological significance: C/E

To the northeast of the extractive workings is a reservoir (IWW633), an enlargement of the original reservoir depicted on the 1st edition OS maps (1880) associated with the Brynmawr Water Works. Water catchment is fed by an extensive system of leats which extend around Pant Mawr and Waun Cyrn on Mynydd Llangatwg. The reservoir, described by the RCAHMW, is in a drained state, with its enlarged embankments surviving, the embankment on the east-side is stone-faced, and a 20th century water tower survives in the southeast corner. A sign was noted at the site inscribed Dwr Cymru “Cairn Mound Impounding Reservoir”.

Table 55. Visited features within the Brynmawr Water Works Reservoir area of the Brynmawr and Clydach Terraces sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW633	Reservoir, Brynmawr Water Works	Reservoir	SO2010313599

Scotch Peter’s Reservoir (see figure 16)

Archaeological significance: B/D

This system appears to have been associated with Tredegar Ironworks, and unlike many of the other water management systems in the area, does not appear to have been utilised for scouring of workings. This large reservoir, IWW275, has now been drained, with a large breach in the west bank, but the formation survives. The substantial bank survives well and is c.3m wide at the top, with the stone facing of the interior visible, consisting of stones placed edge-on into the bank at a 45 degree angle. It is directly associated with two leats, IWW277 and IWW615. The former was the main feeder for the reservoir, flowing from the northeast. Where visited, it was flowing through a boggy area. The ditch is 1.3m wide, while the bank on the downhill side is c.0.4m high and spread to c.1m. There is livestock access to this part of the channel, and it has been heavily trodden. The reservoir also appears to have been fed by IWW615, a free-draining leat system, which generally runs east-west and survives as only an ephemeral linear depression c.0.6m wide and 0.1-0.15m deep, with a slight bank on either side.

To the north of this reservoir, is a system of leats, IWW273, which may be associated with it, but which also appears to have fed into the now destroyed reservoir IWW268 (see year 3 report). The leats run roughly north-south and contour the hill slope. The main channel of the network is generally c.2m wide, though irregular in width. The associated bank is c.0.75m wide, spread to c.2m on the down slope side and c.0.4m high on the upslope side.

Georgetown Reservoir (see figure 16)**Archaeological significance: B**

To the south of this, the Georgetown reservoir system may have been partially supplied by this system, and may also have supplied the Tredegar works. The reservoir itself, IWW283, is now a recreational fishing facility. Its substantial earth bank is well grassed over, and there is no stone facing visible. It appears to have been fed by several leats, including IWW285, which appears to be a natural stream, and is carried under the footpath by a modern pipe culvert, *c.*0.6m deep and *c.*0.6m wide. The active leat system IWW607 also appears to have supplied the reservoir, both draining the mountain, and from the feeder IWW278 (now destroyed, see year 3 report). Where it meets the reservoir, the leat is *c.*0.5m deep and *c.*1m wide, and has a bank on the downhill side. Leats IWW286 and IWW287 appear to have flowed down slope from the reservoir. IWW286 appears to have been reconstructed. There is an active drain along the original alignment, though this is probably not original, it forms a concrete spillway and channel, with concrete slab reinforcement. A secondary channel, IWW287, appears to run from the reservoir and join this leat, though it was not active when visited. It has a v-shaped profile and is *c.*2m wide at the top. A grassed-over bank on the downhill side is *c.*0.75m wide at the top and 1-2m wide at the base. As there has been recent forestry work in the area, this channel may have been altered.

Table 56. Visited features within the sub-system around the Scotch Peter's and Georgetown reservoirs

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW273	Leat System, Tredegar Ironworks	Leat system	From SO1516608939 to SO1628109797
IWW275	Scotch Peter's Reservoir	Reservoir	SO1551408865
IWW277	Leat, Tredegar Ironworks	Leat	From SO1556708961 to SO1603609103
IWW283	Georgetown Reservoir, Tredegar	Reservoir	SO1554007867
IWW285	Leat, Georgetown Reservoir, Tredegar	Leat	From SO1558807865 to SO1593707914
IWW286	Leat, Georgetown Reservoir, Tredegar	Leat	From SO1524307690 to SO1556907814
IWW287	Leat, Georgetown Reservoir, Tredegar	Leat	From SO1542607829 to SO1546407869
IWW607	Leat system, Georgetown Reservoir, Tredegar	Leat system	From SO1559007575 to SO1584207870
IWW615	Drainage system, Scotch Peter's Reservoir	Leat system	From SO1561808581 to SO1597008865

Cefn-goleu Sub-system (see figure 17)**Archaeological significance: B**

This sub-system is what remains of the water management system associated with workings at Cefn-goleu (EA066.02 and EA066.07), which were located on land leased to the Tredegar Ironworks from 1800. The workings of EA066.02 appear to have been scoured by minor hushing channels which originated from leat IWW206, which also supplied the nearby reservoir IWW203 (now destroyed, see year 3 report). Leat IWW206, which is no longer active, consists of a channel, *c.*0.5m wide at the base and *c.*2m wide at the top, with a stone and earth bank on

the downhill side, c.0.5m high, c.1m wide at the top, and spread to up to 3m, which is larger to the east. The bank of the leat has been breached above the workings; more stone is visible in the construction of the bank at the main breach point possibly indicating the site of a primitive sluice. From this breach, an ephemeral scouring channel runs down slope towards the workings. This leat contours the upper slope north of Cwm Tysswg originating in boggy hollow to the west and extends (and flowing) in a generally east-west direction, to deviate south in an arc to the edge of the workings (EA066.02), to then turn north contouring the hillside towards EA066.07.

Another channel branches off Leat IWW206, near its point of origin; leat IWW210 runs on an approximate west-east alignment, to the south and down slope of IWW206, to supply reservoir IWW209, and feed into the system which supplied Tredegar Ironworks, and numerous workings *en route*. Leat 210 runs immediately south of workings EA066.02, and has a prominent stone and earth bank on the down slope side to the south. Reservoir IWW209 is depicted on the 1st edition OS map as linear L-shaped body of water divided in two by a causeway or bridge carrying a path to Cefn-goleu Cholera Cemetery; the Bedwellty Tithe map of 1839, shows the same configuration. The reservoir has a wider area at its southeast end and a linear embankment along its southwest, staggered southwards towards the east end. The reservoir may originally have supplied water to Ty-trist colliery, which lies to the east at a lower elevation. At time of the site visit, it was noted that the embankment on the south side may have been widened and now carries an unsurfaced vehicular track. The feature which appeared to divide the reservoir in two no longer survives.

Table 57. Visited features within the Cefn-goleu sub-system

Numbers (see gazetteer for further details)	Name	Type	NGR
IWW206	Leat, Ashtree Coal Pit, Tredegar	Leat	From SO1275207986 to SO1359508316
IWW209	Reservoir, Cefn-goleu, Tredegar	Reservoir	SO1399207615
IWW210	Leat, Cefn-goleu	Leat	From SO1276407678 to SO1374408049

7 Conclusions and Recommendations

The extraction sub-areas, extraction features, and water management features were assessed for condition and archaeological significance, and recommendations made. The details of the condition of the 87 extraction areas and individually recorded features or groups of features visited during year 5 were assessed with 19 extractive areas and sites being intact and well-preserved (ie condition A) with a further 25 considered to be of condition A/B, a single area recorded at A-U (due to limitations of access), and 20 recorded as being in good condition (ie condition value B) with a further 5 at B/C, 2 at B/D, and one at B/U. The remainder of the visited interests, apart from two of unknown surviving potential, was assessed as being in a damaged, substantially damaged or altered state.

Of the 78 water management features visited and assessed during year 5, 2 were assessed as being intact and well-preserved (condition A), with a further 31 assessed at A/B, and 16 assessed as being moderately intact and in good condition (condition value B), with a further 7 at B/C, 5 at B/E and 2 at B/U. The remainder of the visited water management features, apart from one of unknown surviving potential, was assessed as being in a damaged, substantially damaged or altered state.

The archaeological significance of extraction areas and features and the water management sub-systems was assessed on the basis of condition and the other criteria set out in section 4.2, above. Archaeological significance is summarised in tables 58 and 59, below. Full details can be found in the individual entries contained in Appendix 1 and II. The significance of water management features was done across the sub-systems as a whole, as group value was an overriding consideration, the value of the whole ‘sub-system’ being of more value than the sum of the individual elements within.

Table 58. Summary of assessment of archaeological significance: extractive features and areas

Archaeological Significance value	Number of extractive areas/features
A?	6
A?/B	38
A?/C	1
A?/U	1
B	10
B/C	7
B/U	2
C	13
C/D	2
D	1
U	3
U/D	2

Table 59. Summary of assessment of archaeological significance: water management sub-systems¹⁷

Archaeological survival value	Number of water management sub-systems
A?/B	5
B	5
B/D	1
C/E	1

The most significant extractive areas and features, and water management ‘sub-systems’ are summarised in tables 60 and 61, below:

Table 60. Significant extractive areas and features (sorted by significance values A-B)

Extractive Area/Feature No.	Name	Significance value
EA042.01.10	Shallow workings, agricultural settlement and field system, above Ebbw Vale Iron Works	A?
EA042.01.13	Platform House Structure, above Ebbw Vale Iron Works	A?
EA042.01.15	Pair of platform houses, above Ebbw Vale Iron Works	A?
EA042.09.05	Fan tips, Bryn-mawr north	A?
EA042.09.12	Quarrying, pits and tips, Bryn-mawr north	A?
EA042.09.15	Scoured landscape with scouring reservoir, tips, quarry face and adits, Bryn-mawr north	A?
EA042.09.26	Structure, Bryn-mawr north	A? /B
EA042.01.04	Quarry above Ebbw Vale Iron Works	A?/B
EA042.01.05	Quarry above Ebbw Vale Iron Works	A?/B
EA042.01.06	Quarries and scouring above Ebbw Vale Iron Works	A?/B
EA042.01.07	Tramroad, above Ebbw Vale Iron Works	A?/B
EA042.01.09	Small quarries, above Ebbw Vale Iron Works	A?/B
EA042.01.12	Platform and sunken rectangular drystone feature, above Ebbw Vale Iron Works	A?/B
EA042.05.03	Opencast trenches, Twyn Blaen-nant	A?/B
EA042.05.10	Ruined farmstead structure and yard, Twyn Blaen-nant	A?/B
EA042.09.02	Workings and linear lobed tips, Bryn-mawr north	A?/B
EA042.09.03	Redvein Level, Bryn-mawr north	A?/B
EA042.09.06	Opencast trench, Bryn-mawr north	A?/B

¹⁷ It should be noted that the much enlarged Blaen Clydach Reservoir (IWW436; PRN 06788g), although visited, has not been included in the assessment process.

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Extractive Area/Feature No.	Name	Significance value
EA042.09.07	Workings and linear lobed tips, Bryn-mawr north	A?/B
EA042.09.08	Linear opencast trench and associated tips, Bryn	A?/B
EA042.09.09	Linear opencast trench and associated tips, Bryn-mawr north	A?/B
EA042.09.10	Linear opencast trench and tips, possible levels, Bryn-mawr north	A?/B
EA042.09.13	Shallow workings including crown-pit, rake and level workings, Bryn-mawr north	A?/B
EA042.09.17	Redvein level, Bryn-mawr north	A?/B
EA042.09.19	Hut, Bryn-mawr north	A?/B
EA042.09.20	Hut, Bryn-mawr north	A?/B
EA042.09.21	Hut, Bryn-mawr north	A?/B
EA042.09.23	Hut, Bryn-mawr north	A?/B
EA042.09.24	Coal level, Bryn-mawr north	A?/B
EA042.09.27	Tramroad, Bryn-mawr north	A?/B
EA042.09.30	Quarry, Brynmawr scouring area	A?/B
EA042.09.31	Rifle target (Non-ironworks feature)	A?/B
EA042.09.32	Area of quarrying, Brynmawr north	A?/B
EA042.09.36	Area with hushing leats associated with workings within trench EA042.09.06	A?/B
EA042.09.40	Elevated area of small-scale shallow workings	A?/B
EA042.09.45	Small stone-built structure, Brynmawr north	A?/B
EA042.09.46	Rectangular stone structure, Brynmawr north	A?/B
EA042.09.47	Adit portal, Brynmawr north	A?/B
EA042.09.48	Brynmawr north scouring reservoir	A?/B
EA071.02	Tramroad, Domen-fawr	A?/B
EA071.07	Engine House, Domen-fawr	A?/B
EA071.08	Walling at Domen-fawr	A?/B
EA071.10	Trackside Mechanism	A?/B
EA071.11	Level and Stanchion	A?/B
EA042.06.03	Quarrying, tips and scouring, Nant-melyn	A?/C
EA042.05.11	Three hut-like rectangular features, Twyn Blaen-nant	A?/U
EA042.01.14	Row of quarry scoops above Ebbw Vale Iron Works	B

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Extractive Area/Feature No.	Name	Significance value
EA042.09.04	Coal level, Bryn-mawr north	B
EA042.09.11	Area of leats and hushing leats, Bryn-mawr north	B
EA042.09.49	Coal level tramroad	B
EA043.02.04	Tramroad, Twyn-cynnordy (Year 2: IWT004(i) Clydach)	B
EA066.02	Old Quarry, Cefn-goleu	B
EA066.03	Cefn-goleu south	B
EA066.04	Workings at Cefn-goleu	B
EA071.03	Quarry at Domen-fawr	B
EA071.09	Brick-built hut and revetted trench	B
EA042.07.02	Coal and Ironstone workings, Bryn-mawr	B/C
EA042.08.06	Tramroad at Bryn-mawr	B/C
EA042.09.25	Tramroad, Bryn-mawr north	B/C
EA042.09.38	Area of less intensive pitting, Bryn-mawr north	B/C
EA042.09.43	Trackway, Brynmawr north	B/C
EA042.09.44	North-south tramroad/trackway, Brynmawr north	B/C
EA066.08	Arched culvert, possible level entrance	B/C
EA042.09.33	Rectangular feature or enclosure	B/U
EA085.07	Quarries, Troed-rhiw-clawdd	B/U

Table 61. Significant water management sub-systems (sorted by significance values A-B)

Water management sub-system	Archaeological significance (value A-B)
Waun-y-pound and Rhyd-y-blew	A?/B
Bwlch-y-garn, North	A?/B
Twyn Blaen-nant	A?/B
Brynmawr North	A?/B
Nant-melyn	A?/B
Winchestown and Tai-Humphrey-Hughes	B
Pont ar Lwnc Area	B
Beaufort Hill	B
Georgetown Reservoir	B
Cefn-goleu	B
Scotch Peter's Reservoir	B/D

The above results indicate that the most significant survival of extraction features and areas (ie those scoring A? or A? in combination) are to be found within the extractive landscapes of Bryn-

mawr north (EA042.09), the extractive landscape area above Ebbw Vale Iron Works (EA042.01), and Twyn Blaen-nant (EA042.05), with additional discrete areas of features of significance within the Nant-melyn area (EA042.06), and at Domen-fawr (EA071), though the latter (EA071) largely relate to post-ironworks activities.

The areas visited during year 5 were chosen on the basis of their extraction survival, and therefore correspondingly most of significant surviving water management sub-systems visited, relate directly to extraction and ironstone processing (scouring and hushing) within the aforementioned extraction areas (excepting Domen-fawr). A major exception is Waun-y-pound and Rhyd-y-blew, which has been left largely isolated following the reclamation of much of the surrounding extractive landscape; here the reservoirs and associated leats have been assessed as being of particular significance primarily on the basis of their condition and group value as water supply features; this represents a largely complete group of water management features surviving in a largely unaltered form from that depicted on 1st edition OS maps, and therefore a now rare survival of their type.

The recommendations made vary from further detailed archaeological record/topographic survey to conservation/management and recommendations relating to the possibilities of public presentation. The recommendations can be found within individual entries contained in the appendices. Of the best-preserved extractive areas vested, those located within the following three extractive landscapes were considered prime potential candidates for community projects: EA042.01, EA042.09, and EA042.05. These are detailed in Table 62, below.

Table 62. Potential candidates for follow-up community projects

Year 4 Area Number	Year 4/5 Sub-Area Number	Area Name
EA042.01	EA042.01.04	Quarry above Ebbw Vale Iron Works
	EA042.01.05	Quarry above Ebbw Vale Iron Works
	EA042.01.06	Quarries and scouring above Ebbw Vale Iron Works
	EA042.01.09	Small quarries, above Ebbw Vale Iron Works
	EA042.01.10	Shallow workings, agricultural settlement and field system, above Ebbw Vale Iron Works
EA042.05	EA042.05.03	Opencast trenches, Twyn Blaen-nant
EA042.09	EA042.09.02	Workings and linear lobed tips, Bryn-mawr north
	EA042.09.03	Redvein Level, Bryn-mawr north
	EA042.09.04	Coal level, Bryn-mawr north
	EA042.09.05	Linear lobed tips, Bryn-mawr north
	EA042.09.06	Opencast trench, Bryn-mawr north
	EA042.09.07	Workings and linear lobed tips, Bryn-mawr north
	EA042.09.08	Tips, Bryn-mawr north
	EA042.09.09	Linear opencast trench and associated tips, Bryn-mawr north
	EA042.09.10	Linear opencast trench and tips, possible levels, Bryn-mawr north
	EA042.09.11	Area of leats and hushing leats, Bryn-mawr north
	EA042.09.12	Quarrying, pits and tips, Bryn-mawr north
	EA042.09.13	Shallow workings including crown-pit, rake and level workings, Bryn-mawr north
	EA042.09.15	Scoured landscape with scouring reservoir, tips, quarry face and adits, Bryn-mawr north
	EA042.09.32	Pont ar Lwnc extractive area
EA042.09.34	Tips northwest of enlarged Blaen Clydach Reservoir	

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	EA042.09.36	Area with hushing leats associated with workings within trench EA042.09.06
	EA042.09.38	Area of less intensive pitting, Bryn-mawr north
	EA042.09.40	Elevated area of small-scale shallow workings

None of the extractive features and areas, and water management features visited for the purpose of the current year's fieldwork is currently protected by statutory protection (ie scheduling or listing). Trefil quarry (SAM MM338), at the western edge of the Year 5 study area (see figure 1c) was purposely omitted from the current year's work as the site has recently been described and scheduled. As part of the current year's project the most significant of the extractive areas and features, along with significant water management sub-systems will be considered for further protection. This will form the subject of a separate report.

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Llandgynidir

Bedwellty

Aberystroth

Llangattock

Llanelly

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National Library of Wales:

Various plans held under the following surveys: 'Survey of the manors & lordships of Crickhowell and Tretower, in the county of Brecon' by Meredith Jones. Scale [ca. 1:3,168]. 1760. **Badminton Vol. 14 143/1/5**. In particular a plan entitled 'To His Grace the Duke of Beaufort, M. of Worcester, Badminton, Gloucester and Chepstow Castle. Plan of Blaen-clydach & Coegaemawr, in the parish of Langattock'. p. 72 [Manor of Crickhowell]. .

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OS Landline Data.

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Aerial Photographic Resource Getmapping Digital Data (2000) scale 1:10000

Aerial Photographs (NMR):

Title/subject	NGR	Type	Number/Sortie Number	Date given
Mynydd Llangattock		B&W print	925051/49	-
Mynydd Llangattock		B&W print	925051/50	-
Mynydd Llangattock		B&W print	925051/51	-
Mynydd Llangattock		B&W print	925051/53	-

Southeast Wales Industrial Ironworks Landscapes

Mynydd Llangattock		B&W print	925051/54	-
Mynydd Llangattock		B&W print	925051/55	-
Mynydd Llangattock		B&W print	935047/02	-
Mynydd Llangattock		B&W print	2001/3530-0	-
Mynydd Llangattock		B&W print	2001/3530-04	-
Mynydd Llangattock		B&W print	2001/3530-05	-
Mynydd Llangattock		B&W print	2001/3530-06	-
Mynydd Llangattock		B&W print	2001/3530-08	-
Clydach Terrace	SO182133	Colour slide	2001-cs-0815	1.03.01(II)
Clydach Terrace from NW	SO181135	Colour slide	2001-cs-0818	1.03.01(II)
Rassau & Garnlydan from NE	SO166125	Colour slide	2001-cs-0816	1.03.01(II)
Rassau & Garnlydan from NE	SO166125	Colour slide	2001-cs-0817	1.03.01(II)
Blaen Onnan Quarries	SO154169	Colour slide	2001-cs-0814	1.03.01(II)
Bryn Mawr, Bryn Mawr, Gwent	SO2111	Colour slide	92-cs-1063	19.10.1999
Bryn Mawr, Bryn Mawr, Gwent	SO1812	Colour slide	92-cs-1064	19.10.1999
Bryn Mawr, Bryn Mawr, Gwent	SO1911	Colour slide	92-cs-1065	19.10.1999
Clydach Terraces	SO1813	Colour slide	92-cs-1066	19.10.1999
Clydach Terraces	SO1813	Colour slide	92-cs-1067	19.10.1999
Clydach Terraces	SO1813	Colour slide	92-cs-1068	19.10.1999
Clydach Terraces	SO1913	Colour slide	92-cs-1069	19.10.1999
Clydach Terraces	SO1913	Colour slide	92-cs-1070	19.10.1999
Clydach Terraces	SO1813	Colour slide	92-cs-1071	19.10.1999
Winchestown, Nantyglo, Gwent	-	Colour slide	92-cs-1072-1073	19.10.1999
Bwlch y Garn, Ebbw Vale	-	Colour slide	92-cs-1074	19.10.1999

Appendices

Appendix I Year 5 Extractive Areas and Sites

ID no	Name		
EA041.03	Tips at Bryn-serth reservoirs		
Year 4 ID	Type		Site visit no
EA041	Tips		3
NGR	Spatial type	Area	Length
SO1509610827	Polygon	1.393	N/A
Associated PRN/NPRN			

Description

Linear fingertips bordering the northwest edge of reservoir IWW240. This is the only area of survival of a formerly far more extensive extractive landscape depicted on first edition OS map, the surrounding area (other than the reservoirs and associated leat system) has been reclaimed and landscaped.

Associated EAs and IWWs

Condition	Significance	Recommended for scheduling?
C	C	No

Threats

Erosion scars from motorbike scrambling

Recommendations

Control off-road use and vehicle access, look at strategies to repair existing damage and conserve the features, re-vegetate the erosion scars

ID no	Name		
EA042.01.04	Quarry above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Quarry		16
NGR	Spatial type	Area	Length
SO1781009653	Polygon	0.5098	N/A
Associated PRN/NPRN			

Description

An area of quarrying depicted on 1st edition OS maps (1880). This area primarily consists of a long (c.200m) linear north-south aligned quarry, directly below the drystone boundary wall of enclosed land, quarry face situated along its east side. The quarry face is upto c.3m in height and has a basin at its northern end. The associated tips are small and amorphous, lying down slope to the west. These appear to have been cut north-south by the later tramroad to Bwlch-y-garn Pits and Redash Levels, EA042.01.07, small spoil heaps of shale and other waste lie at the base of the quarry. The quarry face appears to have been scoured; undulations are visible above the working face, these are channels leading from the hushing leat which runs parallel with the top of the quarry face. This area is associated with the workings within EA042.01.05 and EA042.01.09 to the north. This area is likely to be a quarried outcrop exploited for ironstone. Immediately down slope of the quarries tips, to the west of tramroad EA042.01.07 is a small crown-pit working, just up slope of the enclosure wall of the fields to the west.

Associated EAs and IWWs

EA042.01.05, EA042.01.07, EA042.01.09

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Total station survey, consider for scheduling in part or in full

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA042.01.05	Quarry above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Quarry and tips		16
NGR	Spatial type	Area	Length
SO1780509735	Polygon	1.072	N/A

Associated PRN/NPRN

Description

Area of earthworks depicted on the 1st edition OS map (1880), including tips to either side of tramroad EA042.01.07, and a quarry to the east. This area represents a small-scale continuation of the patchworking activity to the south in EA042.01.04. The quarry workings comprise a shallow bowl or basin and associated tips, now grassed-over, east of tramroad EA042.01.07. The waste tips, short and stubby in profile, are generally lobed. A prominent fan tip, aligned extends southwest of the tramroad EA042.01.07, which cuts through the tips running N-S, and there is an associated trackside feature at SO1782909813 (5.8m accuracy). This feature is a rectangular platform, c.11m long, 3-4m wide and 0.7m high, stone-revetted with a metal pipe set vertically at its centre. Immediately to the east is a west-east aligned linear hollow, possibly a former level entrance (unconfirmed). Several well-established paths/tracks cross the features in the west of the area.

Associated EAs and IWWs

EA042.01.04, EA042.01.07, EA042.01.09

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Total station survey, consider for scheduling

ID no	Name		
EA042.01.06	Quarries and scouring above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Patchworkings		16
NGR	Spatial type	Area	Length
SO1763910064	Polygon	2.788	N/A

Associated PRN/NPRN

Description

Area of extraction not depicted on 1st edition OS maps (1880); the extraction features or patchworkings, include small pits, and a substantial quarry cutting possibly, set on the higher slopes above the reclaimed land above Ebbw Vale to the west. The boundary of the West Monmouthshire Golf Course lies to the east. The bounds of the area are defined to the west by very steep slopes, the original working faces of the extractive area, which have been scoured by hushing channels which survive above. The working face retains areas of exposed rock face, and curvilinear scouring channels. Shallow crown-pit workings are also visible partway up the slope. The plateau area includes a large E-W aligned quarry cutting, with scours over the faces forming curvilinear banks. The associated linear tips lie down slope to the west, now truncated by reclamation. Tramroad EA042.01.07 runs north-south immediately to the east of this quarry.

There is much evidence of the use of scouring/hushing in the area: both the main north-south aligned working faces and the faces of the smaller cutting have been scoured. This appears to have ceased by the construction of the tramroad, as a scouring leat flows down slope from the east, over a bank above the quarry, and has been cut by the tramroad. The bank and ditch of this leat are visible on both sides of the cutting, and the line of the leat further down slope can be seen feeding into the main scour for the quarry at SO1773310155 (8.9m accuracy). The confluence of two further leats can be seen at SO1768410222 (5.4m accuracy), forming the head of a scour at the top of the working slope. At this point, a NW flowing scour c.1.5m deep, meets another flowing NE-SW (which is also cut by the tramroad cutting in the bank and shows signs of having been dammed at some point to control the flow of the water with a mound at the mouth). Mounds of flushed shale waste and spoil are still visible at the base of the scour. There is a series of parallel leats on the plateau above the working faces, some of which are substantial.

A series of leats centred on SO1770710159 (8.1m accuracy), generally contour the slope, often ephemeral, one example, disturbed by a path, is 0.5-0.6m deep with a slight bank along the west, and appears to have flowed SSE-NNW. These leats would have originally directed water for scouring and as well as water supply. A good example of scouring survives at SO1775210067 (7.9m accuracy), where the quarry face has been scoured via a hushing leat. Elsewhere further evidence of small-scale extractive activity survive, including a row of three medium-sized quarry scoops with low grassed-over tips on the down slope side cut into the

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west-facing slope.

Associated EAs and IWWs

EA042.01.07, EA042.02.07, IWW622, IWW920

Condition	Significance	Recommended for scheduling?
B	A?/B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Consider for scheduling for group value as part of wider area, Full survey including total station and Lidar

ID no	Name		
EA042.01.07	Tramroad, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Tramroad		16
NGR	Spatial type	Area	Length
SO1780409892	Polyline	N/A	0.8705

Associated PRN/NPRN

Description

Tramroad EA042.01.07, depicted on the 1st edition OS maps (1880), runs north-south along the east edge of the area, serving Bwlch-y-Garn pit and Redash levels to the south. The formation of the tramroad, which is used as a track for part of its length, survives in good condition through the area, embanked at points along its length, with a number of cuttings, one of which cuts twice through the course of hushing leat (IWW920), at SO1773310155 and SO1768410233. This indicates that the construction of the tramroad is likely to post-date the use of scouring in the area, though the continuation of the leat as a dashed line over the tramroad suggests that an aqueduct was constructed to carrying the leat over. This would suggest the continued use of the leat system in the area. The line of the tramroad also cuts the main east-west cloddiau and ditch boundary, which defined an area of former encroachment on to the common waste. A leat, c.1m wide and stone-faced on both sides, with a bank on the down slope side 0.5m high and 0.7m wide at the top, runs parallel to the tramroad for part of its length on the up slope side. No stone blocks or rail features were noted during the field survey.

Associated EAs and IWWs

EA042.01.04, EA042.01.05, EA042.01.06, EA042.01.10

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Total station survey, consider for scheduling

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ID no	Name		
EA042.01.09	Small quarries, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Patchworkings?		16
NGR	Spatial type	Area	Length
SO1795909865	Polygon	0.5367	N/A

Associated PRN/NPRN

Description

Linear area of extractive activity, running approximately northeast-southwest, possibly following a seam? The area, not depicted on 1st edition OS maps (1880), consists of a group of small-scale quarry workings against a low outcrop of stone, a smaller-scale continuation of the quarrying to the southwest (EA042.01.04). There are frequent rectilinear embayments against the slopes of the working face, and associated fingertips including piles of graded stone. The wider area includes shallow sub-circular and sub-rectangular pits and scoops generally c.1.5m by 1.5m. This area also includes possible shelters/processing areas; one example of a rectilinear area/structure is c.10m by 2m. On the upper slopes of the quarry faces is a series of 5 or 6 U-shaped hollows, cut into the slope, surrounded by loose rock and scree, with some limited drystone walling. These may be shooting butts or rudimentary workmen's shelters/processing areas. There is a further possible processing area at the foot of the quarry face, a platform area 4m by 3m with spoil tips at either end. A leat (at SO1793509852 - 5.3m accuracy) runs to the north-north-west; it is 0.9m wide, with a bank on the west side, 1m wide by 0.6m high, flowing towards the quarry area (possibly to be used for scouring?) from the boggy area above. This area continues north into the enclosed area of the golf course. To the south of the main area is a further bank and ditch (or possibly a raised trackway?) running along the border of the enclosed land.

Associated EAs and IWWs

EA042.01.04, EA042.01.05

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Total station survey, consider for scheduling

ID no	Name		
EA042.01.10	Shallow workings, agricultural settlement and field system, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Field system and agricultural settlement?		16
NGR	Spatial type	Area	Length
SO1768509821	Polygon	9.411	N/A

Associated PRN/NPRN

Description

Area identified from A.P.s (Getmapping digital 2000) but not depicted as an extractive area on 1st edition OS maps (1880). Appears to be an area of small-scale extractive activity, with small areas of excavation and small individual associated tips. In addition to small-scale pitting and quarrying (including linear area of quarry scoops EA042.01.14), two settlements were noted: platform house EA042.01.13 and long huts EA042.01.15, together with the remains of an associated field system (boundary banks, clearance cairns, and ridge and furrow).

The extractive features in the area include a linear cut, with an area of exposed quarry face at its head. The depression at the head of this cut measures c.5m by 5m, and the interior is strewn with stone blocks. The head of the linear cut is separated from the main body of the cut to the west by an embankment of stone waste, 3.2m long and 1.5m wide. The small scale of this open-cast trench feature is suggestive of a trial excavation. The associated tips extend both down slope to the west, and also to the north. There is also a group of three small pits, the southernmost at SO1765309937 (6.6m accuracy) is c.3m in diameter with a curvilinear arc of spoil, c.2.5m wide and 0.6m high, on the down slope side.

There is also evidence of scouring activity in this area. A major linear feature runs roughly E-W down slope, in the form of a substantial ditch with a large stone-faced earth bank to the south. This appears to have served a dual function; both as a scouring/hushing channel and as a boundary (see below). In addition to this main E-W channel, other leat features cross the area. A curvilinear bank and ditch run N-S, recorded at SO1764509919 (6.7m accuracy). To the southwest of this point is a group of small trial diggings, generally c.4m long, 1.5m wide and 1m deep. A further example of the leats in the area is a ditch (at SO1777309912 (7.8m accuracy)) running N-S, with spoil (upcast from its construction?) to the west. Another leat runs just to the north of the main E-W linear feature, parallel with it for c.30m, then doglegs to the north at SO1776009881 (6.3m accuracy).

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Immediately west of this point is a small quarry scoop, while further possible extractive activity is suggested to the east, at SO1778809862 (8.5m accuracy), where the leat enters an area of disturbed ground. The various leats and water channels in this area appear to link into the long pond system further to the southwest. There is a feature of unknown purpose (EA042.01.12); a rectangular platform with an associated sunken area which may be an agricultural/industrial shelter.

There is a large area of ridge and furrow to the northeast of EA042.01.13, which lies mainly to the south of the main E-W linear feature. There are also extensive remains of the former associated field system. The characteristic boundaries of the area are of the cloddiau type: stone-faced banks with associated ditches. These may have combined the functions of boundary banks and scouring/hushing channels. The most prominent of these is the substantial E-W linear ditch and bank feature, which may also have functioned as a scour. This bank appears to have been stone-faced. This feature is cut by an embanked, curvilinear stone feature at SO1769709898 (6.4m accuracy).

Quantities of stone debris are located within the base of the ditch in this area.

At SO1768910005 (5.4m accuracy), a further linear embankment, c.1m wide, with slight revetting on the down slope side, was noted again in association with substantial amounts of stone debris. This linear feature joins a further stone bank at SO1768909947 (8m accuracy).

At its east end the main cloddiau bank joins a well-constructed stone wall; the latter has a rubble core and is faced with large blocks (including millstone grit?). The bank is curvilinear, with a ditch on the southeast side. It is visible for c.12.5m between the cloddiau boundary to the southwest (SO1780809829 (5.8m accuracy)), and the tramroad EA042.01.07, which cuts it, to the northeast at SO1781909835 (5.1m accuracy). The bank is 0.7m wide at the top and c.0.5m high (from the base of the ditch). The stone facing of the wall is better-formed on the southeast (i.e. on the ditch side). Just to the west of this wall is an enclosure formed of substantial curvilinear banks. These two banks run roughly SE-NW, and curve to the north, forming an inturned, south-facing entrance.

A sunken linear feature (either a sunken track/hollow way, or water channel/leat) runs diagonally NNE – SSW from the cloddiau boundary along the eastern edge of the area of ridge and furrow towards the northeast angle of the drystone wall, which marks the current extent of the enclosed land. This sunken linear feature then continues south beyond the wall to run immediately west, and down slope, of two platform houses (EA042.01.15), respecting these features. It continues as far as to the drystone wall boundary to the south, and immediately north of this turns at an angle to follow the boundary down slope, to eventually run over the break of slope and finally join with a N-S leat feeding into the water management system associated with Ebbw Vale. This feature, which may have begun life as an access route or hollow way, appears to have acted as a (?seasonal) drain directing water into the water management system during the winter.

Associated EAs and IWWs

EA042.01.07, EA042.01.12, EA042.01.13, EA042.01.14, EA042.01.15, IWW622, IWW921

Condition	Significance	Recommended for scheduling?
A	A?	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Full walkover and total station survey, possibly also a Lidar survey? Detailed mapping of the leat system in the area would be beneficial. Consider for scheduling as part of the wider area.

ID no	Name		
EA042.01.12	Platform and sunken rectangular drystone feature, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Platform and pit (?)		16
NGR	Spatial type	Area	Length
SO1774009878	Point	N/A	N/A

Associated PRN/NPRN

Description

A quarried area cut into the hillside (possibly on an outcrop) with a bank of spoil down slope. The quarried area provides a sub-rectangular platform, c.7m (E-W) by c.12m (N-S) maximum, roughly aligned north-south. At the northern extent of the platform are the remains of a sunken stone-lined rectangular feature, 2.5m by 3.4m, 0.4m deep. The interior of the feature is lined with drystone walling, now partly tumbled, which survives to four courses. A bank, 2m long, extends south from the sunken feature, down slope to the main area of the platform. The exact function of the feature is unknown, whether industrial or agricultural. It may have functioned as a small shelter or store.

Associated EAs and IWWs

EA042.01.10

Condition	Significance	Recommended for scheduling?
B	U	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Consider for scheduling as part of the wider area, total station survey

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ID no	Name		
EA042.01.13	Platform House Structure, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Platform House		16
NGR	Spatial type	Area	Length
SO1769509751	Point	N/A	N/A

Associated PRN/NPRN

Description

A sub-rectangular platform, 18.5m N-S by 26.3m –28.4m E-W, cut into the west-facing slope of the ridge, with a semi-circular bank above the scarp, approximately 0.7m high. There is an upper semi-circular platform with a detached rectangular lower platform further down slope, with a N-S aligned track dividing them. A stone spread lies below the platform, and a number of small clearance cairns are in the vicinity. The surrounding area contains the remains of the associated field system (EA042.01.10), in the form of banks and tumbled walls. The path which cuts N-S between the two platforms, may be directly associated with the structure on the line of a central cross passage, or possibly be a later feature. This path is itself cut by the drystone boundary wall of the enclosed land to the south.

Associated EAs and IWWs

EA042.01.10

Condition	Significance	Recommended for scheduling?
A	A?	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Full survey, including total station survey, consider for scheduling as group with other features in area

ID no	Name		
EA042.01.14	Row of quarry scoops above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	Quarry		16
NGR	Spatial type	Area	Length
SO1767509810	Point	N/A	N/A

Associated PRN/NPRN

Description

A row of three quarry scoops cut into the west-facing slopes, with small associated tips down slope. Two of the quarries are interconnected, and a north-south aligned sunken trackway lies to their west, embanked on the west side, possibly a barrow run?

Associated EAs and IWWs

EA042.01.10

Condition	Significance	Recommended for scheduling?
B	B	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Full survey, consider for scheduling with other features in the area

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ID no	Name		
EA042.01.15	Pair of long huts, above Ebbw Vale Iron Works		
Year 4 ID	Type		Site visit no
EA042	long hut		16
NGR	Spatial type	Area	Length
SO1774309653	Point	N/A	N/A

Associated PRN/NPRN

Description

A pair of adjacent long huts (or platform houses), parallel though slightly off-set and roughly aligned ENE-WSW on a west-facing Hillside. The huts are associated with field system (EA042.01.10). Both are and are on slightly elevated platforms with the hut walls surviving as grassed-over banks.

The southernmost hut, c.14.3m long and c.6m wide, is rectangular with an entrance in the northwest corner, and set on a slightly higher platform with pronounced upper scarp bank. The northern hut, 13.1m by 6.1m, also has a possible entrance in the northwest corner. A linear stone feature, a tumbled wall, extends SSW from the southwest corner of the hut, which appears to be part of an ephemeral enclosure wall, delineating a yard area immediately west of the two huts. The remnants of the former field system associated with the houses includes a further tumbled wall, or stone-faced bank aligned ENE. A hollow way (or possible scour) runs roughly NE-SW past these structures to the west, respecting the hut platforms. There is a possible level entrance or pit, c.3m by 3m, above these features to the east. A NNW-SSE aligned trackway/path runs directly in front of southern hut, abutting the edge of the platform on which it is set, and continues across the centre of northern of the two huts.

Associated EAs and IWWs

EA042.01.10

Condition	Significance	Recommended for scheduling?
A	A?	Yes

Threats

General degradation, agricultural improvement, possible extension of golf course

Recommendations

Full survey, consider for scheduling with other features in the area

ID no	Name		
EA042.02.01	Tramroad, Winchestown		
Year 4 ID	Type		Site visit no
EA042	Tramroad		17
NGR	Spatial type	Area	Length
SO1852810892	Polyline	N/A	0.4566

Associated PRN/NPRN

Description

A section of tramroad depicted on 1st edition OS maps (1880) running northwest-southeast; the line of the tramroad is traceable within the area (Getmapping digital 2000). This survives as a shallow cutting, rubble strewn cutting. To the north side of the line is a length of drystone walling, roughly coursed, and surviving to 6-7 courses. The 1st edition OS map (1880) shows the line entering a tunnel at SO1820610988. This feature is now collapsed/ infilled, and the cutting as it approaches the former tunnel entrance is over 1m deep and splayed to 2-3m wide at the base.

Associated EAs and IWWs

EA042.02.02

Condition	Significance	Recommended for scheduling?
C/D	C	No

Threats

General degradation

Recommendations

Preserve as current, attempt to limit off road vehicle access and damage

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ID no	Name		
EA042.02.02	Tips and opencast trenches, Winchestown		
Year 4 ID	Type		Site visit no
EA042	Tips and workings		17
NGR	Spatial type	Area	Length
SO1815410860	Polygon	20.76	N/A
Associated PRN/NPRN			
86967			

Description

Large, well-preserved extractive landscape, including a stretch of tramroad EA042.02.01. This area is depicted as part of a larger extractive area on the 1st edition OS maps (1880) but the surrounding landscape has now been reclaimed. Several areas of fingertips survive at the north and northeast. Reservoir IWW482, possibly originally used for scouring, and shown on the 1st edition map at the east of the area (NGR SO18370 10889) has been infilled.

The dominant feature in this area is a series of extractive trenches running roughly E-W, facing north, which appear to have been patchworked. This is the main source of the tips in the area. Evidence survives to indicate that the working faces of the opencast trench have been worked by scouring; a series of three (possibly four) scouring channels survive above the face of the lower trench, with scours running laterally from the main hushing leats towards the quarry face. These channels are visible in section on the face, and are associated with embayed depressions at the foot of the trench face, with banks around the sides and scours to either side, eg. at SO1805510842 (6.4m accuracy). There are pit-like features with associated tips located against the quarry face at SO1803710866 (8.7m accuracy). The pits are generally defined by opposite inward-curving banks, with sloping entranceways. One example, at SO1802410869, comprises a depression, c.1m deep 2m wide maximum with an entrance, c.0.6m wide and 12m long at the base, and 0.6m deep between the flanking tips and a linear bank to the north beyond the entrance. Another example similar example lies at SO1800210876 (5.7m accuracy). Scouring or hushing channels are visible on the slopes of the working area above these pits, for example at SO1795210861 (5m accuracy). A rectangular embanked feature containing stone was noted on the southeast of and at the foot of a tip at SO1819410821 (6.3m accuracy). The banks of the latter were c.1m wide at the top and 2.5m wide at the base and 0.6m high, and a possible entrance exists on the southeast side.

Two shafts are located at SO1813910814 (2.5m accuracy), the larger being c.4m in diameter, c.1.5m deep with spoil around the edge and an entrance/drainage channel to the north. The smaller of the two is c.2m in diameter. Additionally in this area is a group of 8 or more diggings, and a linear depression c.3m long by 1m wide. The entire area appears to have been well dug over. There is a large sub circular depression c.5m in diameter and c.1m deep at SO1806610846 (6.8m accuracy), possibly an area of collapsed underground workings. Towards the south of the area at SO1804610667 (5.6m accuracy) is an area of pit workings, some of which are flooded. At SO1805510713 (3.7m accuracy) are the remains of a rectangular concrete structure comprising low footings of concrete block, c.3.5m by 4.1m, possibly the remains of a weigh-bridge? The remains of a possible level were noted at SO1819310713 (6.3m accuracy), in the form of a linear cut, facing east, c.6m long by 2.8m wide, possibly the remains of a level entrance or a drain for underground workings. There is an associated spoil tip 1.5m by 1m in size, to the east. Levels EA042.02.04 and EA42.02.05 are located within the southeast corner of the area.

Associated EAs and IWWs

EA042.02.01, EA042.02.04, EA042.02.05

Condition	Significance	Recommended for scheduling?
B/D	C	No

Threats

Erosion due to vehicles exacerbated by water erosion to steeper slopes. Damage has also been caused by the construction of a new track, and electricity poles.

Recommendations

Topographic survey, control off-road vehicle access, note significance of area on display panels at other locations such as Nant-y-glo Roundhouses

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ID no	Name		
EA042.02.04	Old Coal level, Winchestown		
Year 4 ID	Type		Site visit no
EA042	Level		17
NGR	Spatial type	Area	Length
SO1825510735	Point	N/A	N/A

Associated PRN/NPRN

Description

Old Coal Level depicted on 1st edition OS maps (1880). The west-facing entrance has collapsed and is now blocked and grassed-over. The entrance approach between parallel spoil tips is c.1m wide at the base.

Associated EAs and IWWs

EA042.02.02

Condition	Significance	Recommended for scheduling?
C	C	No
Threats		
Off-road vehicle access, fly-tipping		

Recommendations

Monitor the above

ID no	Name		
EA042.02.05	Old Coal Level, Winchestown		
Year 4 ID	Type		Site visit no
EA042	Level		17
NGR	Spatial type	Area	Length
SO1849110865	Point	N/A	N/A

Associated PRN/NPRN

Description

Old Coal level depicted on 1st edition OS maps (1880). Little remains visible at the site, apart from adjacent tips; the linear entrance of the level has been replaced by a slightly sunken and insignificant drain, 0.75-1m deep.

Associated EAs and IWWs

EA042.02.02

Condition	Significance	Recommended for scheduling?
C	C	No
Threats		
Unestablished		

Recommendations

None

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ID no	Name		
EA042.02.07	Buff Clay Patch, west Monmouth Golf Course		
Year 4 ID	Type		Site visit no
EA042	Quarry		17
NGR	Spatial type	Area	Length
SO1777110411	Polygon	4.134	N/A

Associated PRN/NPRN

Description

This is a partly reclaimed/landscaped rectangular area of relatively late opencast trench workings formerly characterised by closely spaced flat-topped parallel tips, which survive at its northeast end. The workings are first depicted on the 2nd edition OS map (1901), and named as Buff Clay Patch, at which date a north-south aligned quarry face is shown being worked in an easterly direction. The quarry face is located at a point half way along the final extent of the area at this date. Two short tramway branches are shown linked to the face, for the purpose of taking way waste material to the parallel tips to the west; the southern of the two branches is shown linked by an access tramway/inclines (now lost to reclamation) to Ebbw Vale Blast Furnaces and beyond.

By the 3rd edition OS (1920) the workings are shown disused and are at their maximum extent, the access tramway is described as 'old', and the rails lifted. The West Monmouth Golf Course, to the southeast, is also in place by this date, located above the area of former patchworkings.

Despite the construction of the golf course, features associated with the workings remain visible in the landscaped area, for example a number of leats, and possible scours remain. The section of the trench face adjacent to the golf course has and continues to suffer from severe erosion.

Associated EAs and IWWs

EA042.01.06, IWW920

Condition	Significance	Recommended for scheduling?
C/D	C/D	No

Threats

Fly-tipping, off-road vehicle access

Recommendations

Monitor the above

ID no	Name		
EA042.03.01	Patchworking and tips, Bryn-mawr		
Year 4 ID	Type		Site visit no
EA042	Patchworking, tips		17
NGR	Spatial type	Area	Length
SO1801812150	Polygon	2.033	N/A

Associated PRN/NPRN

Description

An early opencast trench and associated tips; including both the remnants of fan tips and some later conical tips. The tips are depicted on the 1st edition OS maps (1880), the tipping may have been used to form the southeast bank of reservoir IWW458. There is a flooded area, possibly a former level entrance, at SO18016 12161. Several trackways run through the area and may be dismantled tramroads, though there is no evidence of these on 1st edition OS mapping. The area is well-vegetated, though it has suffered some erosion. This area survives as a remnant of a wider landscape, which has been largely reclaimed.

Associated EAs and IWWs

IWW451, IWW452, IWW454, IWW456, IWW457, IWW458, IWW626

Condition	Significance	Recommended for scheduling?
C/U	C	No

Threats

Ongoing erosion, reclamation

Recommendations

Footpath improvement, anti-erosion works

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ID no	Name		
EA042.05.03	Opencast trenches, Twyn Blaen-nant		
Year 4 ID	Type		Site visit no
EA042	Tips and workings		18
NGR	Spatial type	Area	Length
SO2065211210	Polygon	30.75	N/A

Associated PRN/NPRN

Description

Large area of extraction depicted on 1st edition OS maps (1880). Consists of four main opencast trenches cut into the north side of the Cefn-coch/Mynydd Coety ridge with the working faces facing north and the main associated tips down slope to the north. There appears to have been significant scouring activity in the area. The area also contains the three hut-like structures (EA042.05.11) and the ruined farmstead EA042.05.10 lies on the south border of the area, suggesting that prior to the intensive extractive activity that took place here, this was at least partly agricultural land, or at least that there was some transitional agri-industrial or early industrial activity and settlement here.

TRENCH 1 lies to the east of the main N-S access trackway and is centred on SO20924 11325. It runs roughly E-W with some exposed rock faces, and scours along the top of the working slope, and curvilinear bays associated with the scouring. There is a possible adit, at SO20790 11264 (7.1m accuracy) facing approximately northwest, with the associated spoil to the northwest now cut by the track. The entrance is c.1m wide at the base and c.1.5-2m deep. The area is well vegetated with heather and bilberries. Near to a small pit c.2mx1m on a spur to the south. In the area there is also a linear cut, possibly a small level, facing southeast, with the tip to the east, now interrupted. To the east of the main N-S track is an area of small pits, with possible voids resulting from scouring. A large crown pit working/bell pit at SO20819 11270 (6.3m accuracy); a large saucer-shaped depression c.18m in diameter, c.3m deep to the first ledge, and a further 1m deep to the centre depression. Spoil associated with this tip appears to cut off a scouring channel, an area of lobed tips to the northwest of this pit may also be associated with it, or possibly with the adit (above) behind it. Scouring system, with a possible scouring reservoir at approximately SO10817 11260, consisting of a pond with a bank on the west side breached in several places. A scouring channel aligned E-W on the south side of the trench flowing to the west, c.1m wide and 1.5-1.75m deep, spoil on the north side forming a bank c.1m+ high, with some spoil to the south side. At SO20859 11281 (3.7m accuracy) are two examples of small shallow pits, c.1.75-2m in diameter c.1m+ deep, on the south side of the quarried area. Linear workings on the south side of the trench, example at SO20876 11274 (5m accuracy) linear spoil either side, entrance 4m long, c.1m wide at the base. Tramroad (not depicted on 1st edition OS map) runs N-S through E end of trench, at SO20953 11288. Formation, including large stones, still visible. Major area of collapse in E end of trench, including length of tramroad, rubble includes stones of tramroad formation. At the E end of the trench is a series of pits/adits/levels on the south side. There are short linear tips and curvilinear banks against the working face of the trench (on the south side). Active erosion is visible from a scour/leat above, while scours are visible down the working face. Depressions in the slope at this point are heavily vegetated, but are possible levels; certainly the main N-S tramroad appears to lead here, running towards the face from the north, turning to the east and running along the working face until it terminates at SO20992 11256 (4.2m accuracy). The east end of the trench is now flooded but this depression is probably an area of deeper workings. Again tipping is on the north (down slope) side of the trench and on the trench floor. Above the east end of the trench, above the south face, there is a complex scouring system. Two parallel leats run from east to west and converge with a third leat (flowing south to north) at SO21016 11236 (3.1m accuracy), at which point they become a scour over the edge of the south face of the trench. At the head of the scour, at the point of convergence, is a small mound of earth and stone, the remains of a hushing sluice. The banks of the leats are also constructed of stone and earth. The series of parallel leats probably represent continual scouring and reuse of the channels, with the earlier ones to the north eroding away at the top of the slope and being later replaced and bypassed by new ones to the south further from the edge. At the far east edge of this trench is a linear cut, possibly a level entrance, at SO21054 11280, c.1m wide with an area of drystone wall revetting. At this entrance is a sub-rectangular feature consisting of a bank c.0.5m high by 7.5m long and 1m wide (spread to 2m), open at the west end and 2m wide internally. It is revetted into the spoil with drystone walling, possibly a shelter or processing hut.

TRENCH 2 is essentially a continuation of the same type of activity as in Trench 1, exploiting the same seam or outcropping, but is on the west side of the main N-S access track, centred on SO20640 11349. Again it runs roughly E-W with the main quarry face on the south side, with exposed rock face, and tips down slope to the north, with evidence of scouring of the working slopes. The scouring channels are visible both on the faces and on the slopes above, there is exposed rock on the faces, and areas of pits and other workings above. Several scouring channels run along the south face of this trench from east to west, one example at SO20705 11290 (7.1m accuracy). The south face of the trench has been subject to scouring leaving exposed rock with scoops and shallow diggings above. Two parallel scouring channels are visible running over the working face from breaches in the bank of the main E-W scour at SO 20679 11300 (6.7m accuracy). On the south face of this trench there are several linear cuttings like levels or small adits, possibly just quarry scoops. There is a group of 5 roughly halfway up the face of the trench along the line of a former scouring channel. There is a series of possible

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collapsed level mouths at the base of the slope.

The tips lie to the north and also on the trench floor, there is an area of fingertips, possibly associated with one of the collapsed levels, in the northwest corner of the area. In the trench floor is a large depression c.9m by 8m, possibly a later pit, at SO20633 11354 (4.8m accuracy). It is surrounded by large quantities of frogged bricks, which could be the remains of a collapsed pithead structure, or, more likely, fly tipped building waste, which is found elsewhere in the area.

There is a small deep rectangular shaft at SO 20671 11300 (7.1m accuracy); this is one of several shaft-like features in the area.

Along the line of the working face of the trench are two parallel north-facing linear cuts at SO20536 11360 (4m accuracy), roughly 5m apart, 1m wide and 2.5m long, Four metres to the east is a small excavation c. 1m by 2m, a further 5m to the east of this is a small rectilinear excavation.

An area of shallow pits/shaft workings is located on the south slope above the trench (2) with associated tips at approximately SO20703 11267 (6m accuracy).

TRENCH 3 is a further continuation to the west of the same type of activity, following the same seam/outcropping as trench 2, centred on SO20369 11301 and lying about 65m to the west of trench 2. Again, the workings are at the south face of the trench, with tips to the north (including lobed fingertips), and scours on the south face. Scoops and curvilinear banks were noted at SO20469 11349 (9.7m accuracy). There are possible collapsed/slumped levels in the south face of the trench.

Above the working face of the trench is a group of 4 pits, possibly coal pits or surface workings, at SO20491 11332 (8.5m accuracy).

There are two larger circular pits, with smaller elliptical pits, all surrounded by low, spread mounds of spoil. Roughly 20m to the east, at SO20523 11341 (2.3m accuracy) is a cluster of seven pits; the larger two being 5-6m in dia., the smaller ones c.3-4m in dia. Two of these pits are linked by a leat.

There is a series of linear depressions, possible collapsed levels, in the south face of the trench at SO20462 11326. These may actually be the result of scouring, although a fingertip to the northwest in line with these depressions suggests the former interpretation. As with trench 2 to the east, there is a series of small scoops in the south face, a group of three or more lies at SO20433 11310 (4.5m accuracy) associated with scours. This typical example has large spoil tips to either side of the exposed, scoured quarry face and a channel/drain running north along the trench floor from the working face between the tips. The entrance to the quarry between these tips is c.2m wide, and the quarry face would originally have been 3m high (now slumped). The tips, 1-2m high and c.9m long, to either side curve inward.

The likely main scouring leat used to scour the working face runs E-W (at SO20467 11298; 8.4m accuracy) through the area between the working face of trench 3 and the tips to the north of trench 4. This substantial channel has banks formed of spoil on either side, and there are various small, well-vegetated tips nearby. Subsidiary scours extend north from the main channel towards the working face of trench 3.

TRENCH 4 lies in the southwest of the area, to the south of trench 3, centred on SO20430 11218, and appears to have exploited a mineral crop up slope of the trenches 1-3. The methods appear to have been identical; extraction of the coal/ore at the south face of the trench, with the tipping down slope to the north, with the main extractive face to the south consisting of exposed quarry faces, small scoops, pits and levels, with evidence of the extensive use of scouring, with scours visible on the south face and channels above. At SO20486 11192 (4.6m accuracy) there is a convergence of scouring leats flowing from the south and east, with one continuing to the west, and a possible bank to control the flow of water. This area of activity has suffered from some erosion.

There is a break in the trench at SO20490 11220 (7.6m accuracy), where the ground level is much higher, but the same activity continues immediately beyond this to the east. Likewise, there is an artificial boundary at the edge of the enclosed land at SO20355 11193 (6.5m accuracy) although the disturbance appears to have been less here, and the same extractive activity is evident beyond this.

A collapsed level entrance was noted at SO20363 11259 (4.8m accuracy) facing north, with a scour running E-W, and a series of scoops to the east. Above the south face of this trench at SO20508 11204 (4.5m accuracy) is a NE-SW aligned scour running to the quarry face from a sunken area, possibly a holding tank.

In the far northwest of the area, outside of any of the trenches an old tramroad plateway was found, not in situ, at SO20126 11433 (6.8m accuracy). This part of the area appears to have been significantly altered. It may originally have been an extractive trench of similar type to the others. While the large lobed tips remain and appear intact, the central area appears to have been filled in. The farmhouse in this area, Blaen-nant, is depicted on 1st edition OS maps and may be original. In this part of the area is a small rectangular platform, at SO20267 11399 (2.6m accuracy) at the foot of a tip on the south side. It is c.1.75m wide by c.2.5m long internally, the banks are c0.75m wide, while the possible entrance is c.0.5m wide. This is along the line of overhead wires, and may be associated with them. This entire part of the area bordering the enclosed land appears to have been substantially altered and disturbed, including modern dumping.

There is a former boundary running N-S through the area, consisting of a boundary bank, which is crossed by the main E-W leat at SO20526 11306 (5.5m accuracy) and which, further north, at SO20534 11271 follows the line of a linear stone feature, probably a tumbled wall. This former boundary lies to the west of, and may be associated with, the ruined homestead structure EA042.05.10.

Associated EAs and IWWs

EA042.05.10, EA042.05.11, IWW919

Condition

A/B

Significance

A?/B

Recommended for scheduling?

Yes

Threats

Continuing erosion, fly tipping (esp asbestos), agricultural improvement

Recommendations

Consider making some of the pits, shafts, levels etc safe with fencing etc, possibly conduct a Health and Safety assessment of the site. Total station/topographic/Lidar surveys, consider for scheduling

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ID no	Name			
EA042.05.10	Ruined homestead and yard, Twyn Blaen-nant			
Year 4 ID	Type		Site visit no	
	Structure		18	
NGR	Spatial type	Area	Length	
SO2070411194	Point	N/A	N/A	

Associated PRN/NPRN

Description

The remains of a homestead or dwelling (EA042.05.10), 13.5m by 5.5m, on a slight platform (with rectilinear yards c.5m by 5m wide to the west and east), located to the south of Trench 2. The building is aligned east-west along the slope, an alignment more characteristic of the 18th and early 19th century, as opposed to earlier arrangements which were often downhill sited. The walls stand to a maximum of 1.25m at the west, while the less well-preserved survive as earth and stone banks, c. 1.8m wide and 0.35m-0.5m in height. The main construction is of stone, though early unfrosted yellow brick was also noted at the site.

The homestead is a rectangular two-unit structure with an internal central north-south dividing wall. The main part of the dwelling slightly elevated to the west has the remains of a hearth (1.7m wide) and collapsed chimney in the west gable end wall, and an external entrance located within the sidewall to the north (obscured by tumble, though probably centrally located to room), with an external porch feature. A possible access into the eastern compartment was noted at the north end of the central dividing wall, adjacent to the external wall. The two-unit internal layout appears to represent either a basic arrangement of kitchen and parlour, or small single unit dwelling with attached byre.

The homestead is depicted on the 1st edition OS map (1880), and the Tithe map of c. 1840 at which date it is recorded as a cottage and garden, owned by Henry Neville Earl of Abergavenny and leased to Joseph Bailey and Crawshay Bailey, Esquires. The map evidences show the homestead set at the southern side of a small rectangular enclosure.

Associated with this settlement, and radiating out from it, is a substantial boundary bank which surrounds a triangular enclosure to the north, extending towards and across the quarried areas; this enclosure, again shown on the 1st edition OS map and the Tithe of 1840, is named as 'Tier Shoon Harry' (Tir Sion Harry) in the schedule. The eastern boundary of the enclosure comprises a massively constructed earth and stone bank and ditch (south side), which curves to the quarry face of Trench 2. The western boundary bank runs north-south and crosses Trench 4, and the major east-west scouring leat (IWW919), further north this feature is visible as a stone faced bank/dry stone wall. The location of this settlement within an area of Common, its close association with extraction, indicates this settlement represents post-medieval encroachment and the remains are likely to represent an 18th or early 19th century transitional agri-industrial settlement, associated with both the exploitation of the common for agriculture and industrial purposes.

Associated EAs and IWWs

EA042.05.03

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes
Threats		
Largely unestablished, general degradation		

Recommendations

Consider for scheduling, total station survey, historic survey

ID no	Name			
EA042.05.11	Three hut-like rectangular features, Twyn Blaen-nant			
Year 4 ID	Type		Site visit no	
EA042	Structures		18	
NGR	Spatial type	Area	Length	
SO2036711361	Point	N/A	N/A	

Associated PRN/NPRN

Description

Series of three low, almost interconnected, ephemeral features, roughly sub-rectangular with rounded corners, one with a small curvilinear annexe, all located within a sparsely vegetated area dominated by considerable shale waste. To the east are low, well-vegetated spoil tips. The features exist as low parched lichen-covered stone-faced banks, <0.25m high and c.0.75-1m wide, with slight internal depressions, filled with stone debris (boulders and shale waste). Fragments of coal were noted nearby. The group is set in a line roughly aligned NW-SE.

Hut A, 6.8m NW-SE by 4.8m NE-SW is located at the SE of the group at SO20372 11358 (5m accuracy). Hut B, 5.4m NW-SE by 4.9m NE-SW, (the middle of the three) lies at SO20367 11362 (2.7m accuracy). An annexe like feature, c.2m wide, appears to link Hut B to Hut C. Hut C, 6.5m SE-NW by 6m NE-SW, located at SO20359 11371 (3.8m accuracy). The interiors show signs of disturbance: as well as lichen-covered boulders, modern debris, plastic sheeting and bone, was noted. Nearby is a low stony bank,

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possibly the remains of a wall running NE-SW, and a low platform on the NE side. Similar features may lie within the area of dense vegetation to the west, and on the other side of the fence within the enclosed land, where there has been some disturbance, are further possible remains. These features may represent the remains of workers' shelters, or possibly primitive kilns, or clamps (?); there appears to be evidence of burning/rust.

Associated EAs and IWWs

EA042.05.03

Condition	Significance	Recommended for scheduling?
A/B	A?/U	Yes

Threats

Ongoing erosion, agricultural improvement, widening of track

Recommendations

Total station survey; archaeological evaluation, recommended for scheduling dependent on results of evaluation

ID no	Name	Year 4 ID	Type	Site visit no	NGR	Spatial type	Area	Length
EA042.06.03	Quarrying, tips and scouring, Nant-melyn	EA042	Quarry, tips and scouring	17	SO1988212855	Polygon	20.01	N/A

Associated PRN/NPRN

NPRNs: 291785; 292031; 292033; 286413; 292026; 292034; 292039; 292040; 292041; 292045; 292046; 292048; 292049; 292050; 292051; 292052; 292056; and 292063

Description

An extensive area of shallow workings (patch/quarries and scours), bounded to the east by EA042.06.06, roughly following the line of stream valley of Cwm Nant-melyn, partly reclaimed, down the south facing slope. The area takes in the remnants of an early opencast trench and associated tips (truncated) within a detached area at the north, east of Figyn-fawr Pond. The southern extent of this feature and its associated tips have been lost to 20th century opencast, their former extent is detailed on the 1st edition OS (1880). These workings were of similar type to those noted further west above Clydach Terrace.

The surviving southern part of EA042.06.03 comprises the main scoured stream valley of Cwm Nant-melyn. Due to restrictions on access (the area lies largely within enclosed land in private ownership), much of the area was not visited during the course of the present year's work. The RCAHMW has provided descriptions area's features (these have been presented in Appendix 1). Of particular note are the remains of a scouring/hushing reservoir and associated scours, the embankments and channels of which remain visible at the western side of the area. This feature is further described below under IWW918 in the water management section.

The following sites fall within the area, the descriptions given area those of the RCAHMW Uplands Initiative survey:

- 291785: Probable industrial structure relating to mining or quarrying. Lies within large quarry. Consists of two upright posts 1.5 metres high with cross beam of 2 metres in length. The structure faces south and presents with several large sections of sheet iron placed on top (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).
- 292031: Small quarry pit 30m E-W x 40m N-S x 3.5 m deep, with small spoil heap to the south (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292033: semi-circular earth bank approximately 100m long built on a south facing slope, enclosing an area approx. 60m x 30m. The bank is 2m high x 4.5m wide at the base and 2m wide at the top. A defunct feeder channel 1m wide crosses the middle of the enclosure, and passes through the enclosure bank in a 2m wide gap. The structure is assessed as a holding reservoir for hushing channels, and is probably associated with NPRN286413 (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292026: Former field boundary consisting of a north-south ditch 80m long, ditch 2m wide x 0.5m deep with a bank on the west side 2m wide x 0.7m high. This boundary now unused, is still marked on the Ordnance Survey of the area (Neil Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292034: A bank and ditch 150m long, curved around the head of the cwm. The bank is 2.5m wide x 0.5m high and surmounted by a low stone wall 0.5m high. The ditch is on the north side 1.5m wide x 0.3m deep (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292039: Elongate quarry running north to south for approximately 200 metres, 5 metres deep at its deepest point with a span of 8 metres. To the eastern side of the quarry sections of dry stone wall are noted with some sandstone exposure present immediately beneath. The western edge of the quarry has less defined sides due to spoil heap contamination (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).
- 292040: Large quarry complex covering an area of approximately 0.5 km. No quarry face present but numerous spoil heaps of varying sizes within the complex. This feature may related to quarrying activity outside of the project area (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).
- 292041: Linear earthwork representative of a hush. Feature runs downhill north to south. Banks to either side. East bank 3 metres high, west bank 1.5 metres high. The feature has a relatively flat base that gains a breadth of 5 metres. The feature can be traced for 60 metres but abruptly terminates at enclosed garden (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).
- 292045: Linear feature probably representing a hush. Feature runs north to south for 100 metres and presents with irregular banks to each side of up to 2 metres in height. The feature gains a span of 4 metres which remains more or less consistent along its course. The feature can be traced to the quarry area to the south (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).
- 292046: Large quarry with numerous spoil heaps. Some exposed sandstone noted. Area covers several hundred metres (L. O'Brien John Winterburn Archaeological Services September 2005; Coflein).

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- 292048: A pit, 4m diameter and 2.5 to 3m deep. Circular with steep (70 degree) well defined sides. Probably the remains of a back-filled mining shaft (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292049: A series of 3 hushing channels 2.5m to 3m wide at their top, 1.5m to 2m wide at the base and up to 2m deep. The channels can be traced for about 100m to the northwest to the remains of a reservoir that would have been used to provide the water for them. Hushing channels were used to scour the topsoil of the underlying coal measures to expose coal and iron stone (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292050: A bank and ditch field boundary. The bank is 1.2m high and 1.2m wide with a ditch to the east side, 1m wide and 0.2m deep. There is a dilapidated post and wire fence running along the top of the bank, which is aligned north-south (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292051: An area of quarrying activity, extending approximately 200m north-south and 170 m east-west and covering more than 3 hectares. The area appears on the 1st edition Ordnance Survey and on the 4th edition maps it is indicated as an "Old Level Coal and Ironstone". Much of the area appears to have been backfilled with spoil and there is one platform formed from spoil that is 50m square. There are also numerous spoil heaps within the area. On the north and east sides of the complex there are banks up to 4m high. At the northwest corner of the site there is an entrance trackway within a cutting that is at least 6m deep and up to 4m wide (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292052: An earth bank, up to 2m high and 1.5m wide, aligned east-west and at least 100m in length. This bank is a boundary bank of a field system (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).
- 292056: A coal mining complex situated on a platform (14m x 32m) cut into the south facing slope in the bottom of the valley of the Nant y Melyn. Comprising a corrugated iron shed, 5m x 7m x 3m high, with a single pitch roof containing the remains of a winch and compressed air equipment. There are the remains of a dram way, mining tubs and tipping gear together with 12m of track and a pile of at least 10 rail lines (J. Winterburn, John Winterburn Archaeological Services, Sept 2005; Coflein).
- 292063: Spoil tip, 16m long and 2.5m wide at the southeast end reducing to 0.7m at the northwest end. Its height varies from 1.5m to 0.5m at the northeast end (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

Associated EAs and IWWs

IWW918

Condition	Significance	Recommended for scheduling?
A?-U	A/C	Yes

Threats

Appears, where visible, to be in generally good condition.

Recommendations

Consider NPRN 292033 and associated scours for scheduling (on enclosed land)

ID no	Name	Year 4 ID	Type	Site visit no
EA042.06.06	Quarrying, tips and the Nant-melyn farmstead	EA042	Quarries and tips	17
NGR	Spatial type	Area	Length	
SO2019612824	Polygon	4.076	N/A	

Associated PRN/NPRN

Description

This is an area of extractive activity along the east bank of the Nant-melyn stream. The exploitation on the lower slopes appears to have been fairly small-scale, evidenced by small quarries faces along sides of the stream valley; a number of small lobed tips survive. A trackway is depicted on the 1st edition OS map (1880) serving the farmstead and various workings; this feature follows the eastern branch of the Nant-melyn stream. It is unknown whether this follows the line of an earlier tramroad, however lengths of well-constructed stone revetting were noted along the trackway edge near where it crosses the adjacent stream.

The area also contains the demolished remains of Nant-melyn farmstead, (in EA042.06.06) depicted on the 1st edition OS map (1880). This was a single range of dwelling with an attached outbuilding/byre, aligned north south. To the north a substantial linear tip associated with either the opencast workings along the stream valley, north of Nant-melyn farmstead or with a level working was noted. This feature and the adjacent workings lie within privately owned land and were not accessed at the time of the survey.

Associated EAs and IWWs

Condition	Significance	Recommended for scheduling?
C	C	No

Threats

Erosion, improvements to track

Recommendations

Monitor erosion

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ID no	Name		
EA042.07.02	Coal and Ironstone workings, Bryn-mawr		
Year 4 ID	Type		Site visit no
EA042	Quarry and tips		17
NGR	Spatial type	Area	Length
SO1862212519	Polygon	8.589	N/A

Associated PRN/NPRN

305766: Ironstone workings to Northwest of Brynmawr characterised by small finger tips and quarrying. 05268g: A185 DESK-BASED ASSESSMENT A465 ABERGAUENNY TO HIRWAUN DUALLING The second site (H2) is located north of Brynmawr and consists of an area of ironstone opencast workings. 08865g: The site of Rhas Fach (lit. "little race"), a former community of patch-mine workers. The site of the settlement itself has been almost entirely destroyed by recent landscaping works. However, an associated coal race, currently standing within a small plantation, survives about 50m to the north-west. Approximately 150m south of Rhas Fach (at SO 1830 1262) is a scouring pond associated with patch-mining operations. The site is used as rough pasture for horses and sheep. 08866g: Approximately 150m south of Rhas Fach Deserted Settlement (08865g) is a scouring pond associated with patch-mining operations for iron ore. The scouring process was common throughout south Wales Iron Belt and was described in detail by Evan Powell in his History of Tredegar (1884):

"After working several years on the 'pick and shovel' process, clearing the edge of the outcrops where convenient and practicable, the gradient of the strata was such that a considerable quantity of topping was to be cleared, and the minerals getting deeper into the earth, the miner was required to exercise his ingenuity and develop all his skill and energy. His next process was to drive small holes into the strata a certain distance, then to work the small pillars that separated the numerous holes, and suspending operations until the overlying strata would of their own weight fall in mass. In the meantime a small pond or reservoir was constructed and filled with water. The pond was situated in such a position that when its bank was broken, the water rushed into the fallen mass, separating the mine and rubbish." The site is used as rough pasture for horses and sheep.

Description

Area visible on A.P.s (Getmapping digital 2000), part of a larger extractive area depicted on 1st edition OS maps (1880) and labelled as coal and ironstone workings, which appears to consist of quarry faces in the south of the area, with levels, structures and areas of finger tips generally in the north of the area, with tramroads connecting them (including EA042.07.03). The area contains a small pond (08866g), which is listed in the HER as a scouring pond, though it appears more like a small quarried hollow which has filled up with water. The area appears to be generally intensively pitted; there is a pit at SO1849812662, c.3m in diameter with an entrance on the north side, a further large pit to the south of this, at SO1850012636, c.8m in diameter. There is an area of three pits at SO1852212626, forming a line on a roughly E-W alignment, two being c.7m in diameter, the third (furthest to the east) is c.3m. These are likely collapsed shallow bell pits. There is a series of pits at SO1851212586, at least 5, some of which are flooded. There is a series of three sub-rectangular pits at SO1846912639. The fingertips in the area are very heavily vegetated with dense clumps of heather. There are the remains of two possible huts in close proximity to each other; one at SO1842312607, a sunken rectangular feature c.3m long by 3m wide, with an associated small spoil heap c.0.6m high to the north. The second of these is a sunken sub-circular feature c.3m in diameter and c.0.3m deep at SO1843512617. On the south side of the area on a roughly NW-SE alignment is a linear quarry face with embayments.

Associated EAs and IWWs

EA042.07.03

Condition	Significance	Recommended for scheduling?
B/C	B/C	No

Threats

Reclamation, landscaping, small-scale forestry etc, minor erosion

Recommendations

Lidar and total station survey, health and safety assessment of open workings and shafts/pits etc, localised fencing off of open shafts etc.

ID no	Name		
EA042.07.03	Tramroad at Bryn-mawr		
Year 4 ID	Type		Site visit no
EA042	Tramroad		17
NGR	Spatial type	Area	Length
SO1828312650	Polyline	N/A	0.1877

Associated PRN/NPRN

06000.0g: Tramroad running west/east, parallel to, and south of, the A465. This tramroad was connected to the Garn Lydan Tramroad (No.123) at SO 1763 1257 and appears to serve extensive open-cast workings to the east at SO 178 126 to 193 125.

Description

Tramroad depicted on 1st edition OS maps (1880), running from east to west. This survives as a track, although it is difficult to tell whether any of the original formation survives, as this part of the area has been significantly disturbed by the tracks of heavy plant.

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Associated EAs and IWWs

EA042.07.02

Condition	Significance	Recommended for scheduling?
D	D	No

Threats

Unestablished

Recommendations

None

ID no	Name	Year 4 ID	Type	Site visit no
EA042.08.01	Quarrying and tips, Bryn-mawr	EA042	Quarries, tips	17
NGR	Spatial type	Area	Length	
SO1932012638	Polygon	11.76	N/A	

Associated PRN/NPRN

06042g: To the south of the A465, are a series of platforms and quarry holes which cut into the exposed coal-seams. The platforms have been interpreted as being local tramroads leading to open-cast workings. The outcrops were worked int (sic).

Description

This area on the steep slopes of Clydach Dingle above the modern A465, is a remnant of a much larger extractive landscape depicted on the 1st edition OS maps (1880). It consists of long quarry faces and tips, served by tramroad EA042.08.06 (recorded in GGAT 80 year 2 work as Disgwylfa main; IWW006e(iii)). The areas of quarrying generally lie above the tramroad, with the tips below (example at SO1897112823 - 2.3m accuracy). The modern Heads of the Valleys Road cuts through the area and as a consequence much of the area has been heavily landscaped. Sections of exposed quarry faces survive; these are aligned east-west and face north, with remnants of waste tips below, although these have been significantly re-profiled. The working face appears to have been scoured at points, and a potential hushing channel was noted running between the tips and over the working face at SO1919912715 (5.4m accuracy).

A cutting for the tramroad, and a level section wide enough for passing loop or side branch was noted at SO1911712793 (4.3m accuracy), nearby is a low linear bank, c.1m in width, at the foot of the working face, south of the tramroad. The bank encloses an area of scoured quarry face, with a large central scour with lesser scours to either side, and a small tip (2m by 4m) at the base.

Waste tips, lobed or finger tips, extend to the west below the tramroad at SO1889312816 (4m accuracy). The tops of small conjoined tips at one point form a flat shelf in the slope. Limited and partly truncated remains of workings (tips, quarries and possibly former levels or adits) were noted further west within an area which had been subjected to landscaping.

Associated EAs and IWWs

EA042.08.06

Condition	Significance	Recommended for scheduling?
C	C	No

Threats

Road widening, erosion

Recommendations

Topographic survey (possible)

ID no	Name	Year 4 ID	Type	Site visit no
EA042.08.06	Tramroad at Bryn-mawr	EA042	Tramroad	17
NGR	Spatial type	Area	Length	
SO1885721804	Polyline	N/A	1.007	

Associated PRN/NPRN

Description

Length of tramroad depicted on 1st edition OS maps (1880) runs roughly east-west then turns south, the line of the tramroad appears to survive well (Getmapping digital 2000).

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The southeast length of this tramroad was recorded during GGAT 80 year 2 fieldwork as:

IWT006e(i) (CONDITION A) is a short section located between SO 19228 12525 and SO 19230 12499. This section is enclosed with trees either side of the track. Formation survives as a muddy path with exposed stone blocks (IWT006e/001). More features are possibly buried beneath the leaf litter.

IWT006e(ii) (CONDITION B) located between SO 19195 12681 and SO 19217 12553 is very overgrown. Again the section is enclosed with trees on either side and Hawthorn hedgerow to the west. The edge of an opencasted area runs beyond this. Remains of revetting (IWT006e/002) are very overgrown and it is probable that other remains exist beneath the undergrowth.

The section between IWT006e(i) and (ii) has been destroyed by the construction of a modern track.

IWT006e(iii) (CONDITION B) is located between SO 19155 12784 and SO 19195 12681. This section survives as a grassed over formation through a cutting (IWT006e/003) and contouring the hillside. Buried remains are possible.

The section to the west also survives, there is a cutting at SO1911712793 (4.3m accuracy) as well as a side branch, and a low linear bank on the south side, which may be associated with the tramroad or with the extractive activity/scouring in the area.

Associated EAs and IWWs

EA042.08.01

Condition	Significance	Recommended for scheduling?
B/D	C/B	No
Threats		
None established		

Recommendations

Preserve as current, consider construction of slightly raised footpath

ID no	Name	Year 4 ID	Type	Site visit no
EA042.09.02	Workings and linear lobed tips, Bryn-mawr north	EA042	Tips and workings	17
NGR	Spatial type	Area	Length	
SO1799613582	Polygon	19.43	N/A	

Associated PRN/NPRN

NPRN 291889: A area of long, narrow fan shaped spoil tips. Numerous tips within an area of at least 5 hectares. Typically the tips are 10m to 30 m in length, 3 m to 4m wide and up to 3m high. They are the result of coal mining in shallow mines within this area. (J. Winterburn, John Winterburn Archaeological Services, August 2005 Coflein). NPRN 291883: A small square structure 3m x 5m, walls 0.5m thick x 0.2m high with an entrance on the north side. The rubble from the collapsed walls show no evidence of a mortared construction. The building is in an area of continuous overlapping spoil heaps, but appears to have been constructed at the origin level and may predate the quarrying activity. (N. Tinkley, John Winterburn Archaeological Services, August 2005 Coflein). NPRN 291905: Fan shaped spoil tips, possible overlying earlier tips in this area. This recorded example is typical of the tips within this area and is approximately 52m in length and 1.5 to 2m high. At its base it is 6m wide reducing to 1.25m at its top. (J. Winterburn, John Winterburn Archaeological Services, August 2005 Coflein). NPRN 291906: An example of the many similar spoil tips within this area. This example is 22m long by 9m wide at its base, 1.5m wide at the top and 3 m high and is covered in grass. They tend to be grouped in two or three fan shaped tips emanating from a single point. Some of these tips overlaid low lying tips. (J. Winterburn, John Winterburn Archaeological Services, August 2005. Coflein). NPRN 291915: The site of a reservoir with a spill way connected to a water channel (NPRN 286295) and the remains of earth dams and embankments. Most of the site has been overlain with spoil tips from later mining activity. The remnants of the structure are shown on the 1st edition Ordnance Survey maps and so the reservoir was derelict at this time. (J. Winterburn, John Winterburn Archaeological Services, August 2005. Coflein). NPRN 291916: A water management channel 1.2m wide and 0.8m deep and lined with stone blocks. There is a concrete spillway at its western end and this connects with a cast iron pipe, 0.5m diameter. A cast concrete spill way (2.7m wide, reducing to 1.5m and 11 m long) diverts overflow water to the southwest into a reservoir (NPRN 286294) (J. Winterburn, John Winterburn Archaeological Services, August 2005. Coflein). NPRN 291924: Stone lined water channel tunnel cut into possible spoil heap or embankment. Semicircular 1 metre wide and 0.8metres high. Continuous water movement noted. Probable industrial purpose. Within quarrying complex. (L O'Brien John Winterburn Archaeological Services August 2005 Coflein). NPRN 291925: 4 Metre section of wall at base of spoil heap that forms part of a leat system. The wall stands 1 metre and 5 courses high and is constructed from sandstone. It has a northeast to southwest orientation. A leat lies immediately in front of this feature and can be traced for 29 metres. Occasional sandstone blocks noted on eastern edge of the leat. At the northern most point of the leat the edge of a 0.5 metre ferrous pipe is visible. This appears to run underground for 7 metres where a stone lined rectangular opening or manhole 1 metre by 1.5 metres is visible. The pipe can be seen to terminate at this point. This feature lies within extensive quarry complex. (L O'Brien John Winterburn Archaeological Services August 2005 Coflein)

Description

Large area of long narrow fan tips, in the far north of the Bryn-mawr area, mainly running on a roughly northeast-southwest alignment. There is a possible area of crown pit workings in northeast of area, with shorter, broader associated tips in a small area (Getmapping digital 2000). Includes a possible former reservoir, NPRN 291915, which is overlain by later tips, and which may have

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been originally associated with scouring activity. The north, northeast and east edges of the area are defined by a "trench" formed by deep workings, following a now quarried-out shallow outcropping. This primitive opencasting has created a deep cutting, with further small pits, shallow workings and adits in the floor of the trench and the face of the slope, including level EA042.09.16. Pits against the face of the cutting run in groups from SO1806812853 to SO1795712899, and many have large blocks of stone associated with them, possibly padstones or supports for structures around the pits. Associated low linear spoil tips fan out from this low-lying area. The working face of this cutting appears to have been scoured/hushed; leat IWW922 runs parallel immediately to the northwest of the cutting, while leat IWW923 lies parallel to the northeastern edge of the area. A series of small channels (created by diverting water from the main supply/diversionary leats) extend south from leats IWW922 and IWW923 to the working faces of the trench, where scours are visible extending down the quarry face itself, associated with small mounds of scoured waste material at the foot of the quarried slope (eg. at SO1789213917, 8.3m accuracy, and SO1807813836, 11.4m accuracy). Jumbled blocks of stone, eg. at SO1787312899 (5.1m accuracy), occur frequently in association with the scoured debris. A possible former holding pond and associated leats, now a boggy area, lies to the north of the latter, whilst a higher area to the west contains a series of depressions, possibly small crown-pit workings, and tips. There is a series of small pits to the south of the area (adjacent to the edge of EA042.09.05) and a small flooded rectangular depression at SO1803013619, at a point where tramroad EA042.09.25 branches to serve various levels further to the northeast.

Associated EAs and IWWs

EA042.09.16, EA042.09.25, IWW922 and IW923

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Reclamation. Issue 1: fly-tipping on edges of area, around tracks and main access points (mainly in SW), including dumped concrete panels (probably associated with the lining of the adjacent reservoir feeder leat in concrete) Issue 2: off-road vehicles causing erosion

Recommendations

Lidar, topographic, total station surveys to work, consider for scheduling

ID no	Name	Year 4 ID	Type	Site visit no	NGR	Spatial type	Area	Length
EA042.09.03	Redvein Level, Bryn-mawr north	EA42	Level	17	SO1817213910	Polygon	0.6641	N/A

Associated PRN/NPRN

291855, 291893

Description

Redvein Ironstone level depicted and named on 1st edition OS maps (1880). Includes level entrance (EA042.09.17) tramroad (EA042.09.25) and associated tips, a cluster of fan tips in the south of the area with two smaller detached tips on the northwest side of the tramroad (Getmapping digital 2000). On the slope to the east of the main level is a sub-rectangular pit, 4m wide with a bank on its southwest side. There is a mound of stones, consisting of mid-sized boulders, at SO1821513886, c.3m by 4m, and there is a further linear stone feature, probably a stone dump, 10m+ in length to the north. The adit mouth itself faces southwest, and the course of the former tramroad running towards it from the southwest is strewn with stones and boulders. As well as the main adit mouth, there are secondary entrances in the area. To the west of the main NE-SW line of the level and tramroad are two associated elongated tips. The level itself is situated in a natural embayment in a boulder-strewn area, with some outcropping. A stream cuts through the area, and there are small low mounds of stone around the level entrance.

Associated EAs and IWWs

EA042.09.17, EA042.09.25

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

Reclamation.

Recommendations

Consider for scheduling, topographic survey

ID no	Name	Year 4 ID	Type	Site visit no	NGR	Spatial type	Area	Length
EA042.09.04	Coal level, Bryn-mawr north	EA042	Level	17	SO1830513746	Polygon	2.549	N/A

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Associated PRN/NPRN

291880: Small rectangular building 3m x 3m walls 0.3m thick x 0.5m high with a doorway at the north end . From the north side the wall extends 13m long x 1.75m high of mortared construction, with an earth bank on the west side. The function of the two structures is not apparent, but is assumed to be linked with the quarry activity in the area (N. Tinkley, John Winterburn Archaeological Services, August, 2005, Coflein).

291893: A 4m diameter platform cut into the south facing hill slope, with a bank, 2.5m wide at its front (south) edge (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

291896: A low mound of concreted ash and burnt brick, coal and slag and some vitrified silica brick. It is 12m long and 6m wide. Test on the slag with a magnet indicate the presence of iron. Other features in the area (NPRN 286270, 286274) indicate that this is possibly the site of either a lime kiln or an iron smelting furnace. (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

291897: A pit, approximately 4m x 4m, cut into the south facing slope with spoil, up to 3m high at its front edge (See also NPRN 286270, 286273), (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

Description

An area of level workings, includes level entrance (EA042.09.18), a coal level depicted and labelled on 1st edition OS maps (1880) and its associated tramroad (EA042.09.25) and fan tips, which lie to the west, and southwest of the level. The actual area of workings is set in a very low-lying depression which is now flooded. For this reason the level mouth is no longer visible. The cut of the approach to level area (i.e. the line of the former tramroad) is visible between the tips at the south of the depression, and leads a large fan tip to the southwest. Adjacent to the line of this tramroad is the possible processing hut or workers' shelter EA042.09.19. The area includes a possible crown-pit working, 3.9m (int.)- 7.5m (ext.) in diameter, with an associated crescent mound of spoil, 1.3m high. A small sub-circular pit, c.3.5m in diameter lies to the north at SO1824613878 (5.1m accuracy). Further possible crown pit workings lie on the northeast side of the level area, including a small pit with associated dumping on the south side, and with large loose boulders in the interior (at SO 1824813867). On top of the associated tips to the north of the level mouth is a structure, considered to be an early 20th century (ie WW1?) rifle target, EA042.09.31.

Associated EAs and IWWs

EA042.09.18, EA042.09.19, EA042.09.25, EA042.09.31, IWW900

Condition	Significance	Recommended for scheduling?
B/U	B	No
Threats		
Reclamation.		

Recommendations

Topographic survey to determine the sequence of extraction and tipping

ID no	Name	Year 4 ID	Type	Site visit no	NGR	Spatial type	Area	Length
EA042.09.05	Linear lobed tips, Bryn-mawr north	EA042	Tips	17	SO1809613351	Polygon	10.04	N/A

Associated PRN/NPRN

291907: A fan shaped spoil tip made from colliery shale, some of which is exposed beneath the grass. This is an example other numerous tips within this area and at least 5 others can be seen within 20 m of this tip. It is 67 m long by 9m wide at its base and 1.5m wide at its top and 4m in height. It overlays several smaller tips all emanating from a single point (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

Description

Area of fan tips, depicted on 1st edition OS maps (1880). The area, which comprises tips associated with extractive trench EA042.09.06 also contains two possible rectangular structures EA042.09.20 and EA042.09.21. The tips within the area comprise long linear tips with small lateral lobes and are of a slightly shorter and broader shape than those immediately to the north (EA042.09.02). The southwest corner of the area includes a large amorphous detached tip which appears to be formed of several amalgamated conical tips, more typical of later tip morphology.

Associated EAs and IWWs

EA042.09.06, EA042.09.20, EA042.09.21

Condition	Significance	Recommended for scheduling?
A/B	A?B	Yes
Threats		
Reclamation.		

Recommendations

Consider for scheduling

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ID no	Name		
EA042.09.06	Opencast trench, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Opencast workings		17
NGR	Spatial type	Area	Length
SO1816413274	Polygon	5.081	N/A

Associated PRN/NPRN

Description

This is a deep extractive trench, EA042.09.06, which contours the hillside above Blaen Clydach in a wide arc from the north turning gradually south west and then south, the waste material from the excavation is found in the tips of EA042.09.05, paralleling to the west and south. The feature is depicted on 1st edition OS 1:2500 maps (1880) as part of the larger extractive landscape. The feature, which takes the form of a deep, heavily worked curving linear trench, represents opencast workings along the five-foot coal seam. Sections of exposed quarry face along the eastern side of the trench, as well as crown-pit and rake workings of shallow pits and scoops dug into the sloping sides and floor of the trench were noted. The feature ends in an area of intensive shallow workings at its southern extent. The trench appears to have exploited both coal and ironstone; with evidence of scouring noted along the quarry face; hushing channels, and scours at the edge of the quarry face, and small mounds of scarified waste at the foot, were all in evidence. Leats for hushing were noted extending to the quarry faces in the area from adjoining area, EA042.09.36. Numerous shallow workings were noted at the south of the area; these are mainly small pit-like features, and include one steep-sided pit at SO1812713182 (18.1m accuracy), which contains a large stone in the base.

Associated EAs and IWWs

EA042.09.05, EA042.09.36

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

Reclamation.

Recommendations

Consider for scheduling

ID no	Name		
EA042.09.07	Workings and linear lobed tips, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Workings and tips		17
NGR	Spatial type	Area	Length
SO1837113308	Polygon	9.069	N/A

Associated PRN/NPRN

305771:1. Ironstone workings characterised by large number of finger shaped tips. To north of Brynmawr. David Thomas, RCAHMW, 29th July 2002.

2. An extensive area of iron stone and coal mining activity, known locally as The Patches. And covering an area of at least 400m radius from this point and extending further to the north. J. Winterburn, JWAS, September 2005.(Coflein)

Description

Large area of lobed fan tips, generally long and narrow, running on a northeast to southwest alignment in the north half of the area. To the south, the tips are generally shorter and broader on a roughly north-south alignment, forming a curve around so that in the very south of the area short, broad tips run northwest-southeast (Getmapping digital 2000). The 1st edition OS maps (1880) show this as part of the larger extractive area, and it contains one shelter/processing hut, EA042.09.23. The area contains several groups of collapsed shaft workings/pits; a good example, a depression 1.05m deep, 1m wide at the base and 2m wide at the top, is located at SO1838713166 (6.7m accuracy). The southeast edge of the area shows signs of having been worked on a small-scale as a quarry. The face has evidence of scours at its face extending from the higher adjoining area EA042.09.38, and has typical small scoops/depressions/pits and 'embayments' at the base of the quarry face.

Associated EAs and IWWs

EA042.09.23, EA042.09.38

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Reclamation.

Recommendations

Consider for scheduling

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ID no EA042.09.08	Name Tips, Bryn-mawr north		
Year 4 ID EA042	Type Tips		Site visit no 17
NGR SO1861913160	Spatial type Polygon	Area 6.431	Length N/A

Associated PRN/NPRN

291993: A series of at least 6 pits and small quarry features in a line running north-south along the west facing slope of natural ground. The pits are typically 2.5m to 3m diameter and 1.5m deep and surrounded with a low bank of spoil 1m wide. There is an exit trackway 0.7m wide, from most of the pits. These are coal extraction pits and may pre-date the more extensive mining in the area during the 19th century (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005, Coflein).

292075: An area containing at least 5 pits, 3m to 4m in diameter and 2m deeps in a line running north-south at the foot of an east facing scarp with a further 6 pits running to the west. There are low spoil heaps around some of the pits, up to 2m wide and 1m high containing shale and coal fragments. Some of the pits have entrances on the eastern side. These are coal extraction pits (J. Winterburn, John Winterburn Archaeological Services, Sept 2005; Coflein).

Description

An area dominated by substantial linear and lobed tips, with low wide profile and well-rounded lobes. The tips are orientated northeast-southwest, very well-vegetated with heather. The tips appear to form four distinct groups, the two furthest east have been truncated by the construction of the Heads of the Valleys road. An associated worked quarry face (scoured), west facing, is aligned roughly NNW-SSE along the eastern edge of the area, associated with a series of shaft workings, including crown pit workings, which may predate the extensive opencast workings of the area (see above).

Associated EAs and IWWs

Condition A/B	Significance A?/B	Recommended for scheduling? Yes
Threats Reclamation.		

Recommendations

Consider for scheduling

ID no EA042.09.09	Name Linear opencast trench and associated tips, Bryn-mawr north		
Year 4 ID EA042	Type Workings and tips		Site visit no 17
NGR SO1878313308	Spatial type Polygon	Area 6.705	Length N/A

Associated PRN/NPRN

291991: Two circular pits, 3m diameter and 1.5m deep, within an area of coal mining waste (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292009: An area 100m x 50m containing numerous small pits, typically 10m dia. X 3m deep with associated spoil heaps. Coal is visible near the surface in the pits. Local anecdotal evidence suggests that they were exploited during the early 20th century by groups of local unemployed (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005, Coflein).

291903: Two irregular shaped and one circular spoil tips, approximately 2m in height. They are approximately 6m by 4m, 8m by 3.5m and 2m diameter. To the east of an area of quarrying (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

Description

An area of linear quarry workings along a major NNW-SSE aligned scour, the head of which at the north forms a deep steeply-sided basin, with associated tips lying to its south, and to the west. To the west of the basin at SO1868813596 (6.2m accuracy) are a number of crown-pit workings, typically, c.4m in diameter with associated spoil. The basin itself represents the final phases of what is an extensive linear trench, which has been largely infilled by progressive linear tipping as the quarry faces have been cut back. The basin retains evidence of scouring activity in the form of hushing leats around its rim and exposed waste, either scoured or sorted, at the foot of the quarry face. The tips towards the north are generally short and broad and quite randomly placed, while the long low, narrow fan tips to the south run on a roughly north-south alignment on either side of a disused haulage track depicted on the 1st edition OS maps (1880). The extractive trench has been in part scoured by channels from the higher adjoining area (EA042.09.11), and scouring channels are visible on the north side at SO1869613616 (8.9m accuracy). The associated scouring channels which cross the adjacent area EA042.09.11, appear to issue from within area EA042.09.15 to the east, though their source, a postulated early scouring reservoir to the north of the extant scouring reservoir (EA042.09.48/NPRN 291923) has been lost to the extensive quarrying and tipping in this area. The remains of a scouring/hushing channel (IWW912) parallels the eastern face of the trench. The tips to the east side of the trench include large, angular pieces of stone, and are more sparsely vegetated. A detailed study of the spoil waste within this and other trenches might provide further insight into the quarrying processes used.

Associated EAs and IWWs

EA042.09.11, EA042.09.15, IWW900, IWW912, IWW913, IWW914, IWW916

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Condition A	Significance A?/B	Recommended for scheduling? Yes
Threats Reclamation.		

Recommendations

Consider for scheduling

ID no	Name		
EA042.09.10	Linear opencast trench and tips, possible levels, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Workings and tips		17
NGR	Spatial type	Area	Length
SO1897813721	Polygon	1.818	N/A

Associated PRN/NPRN

291894: The start of an area of quarrying in the form of a gully, 12m wide and up to 4m deep extending for over 300m to the southwest. This feature is shown on the 1st edition Ordnance Survey maps indicating it was in existence prior to 1980. The feature had not been extended by the time the 4th edition map was produced. May have been for quarrying limestone or coal from the nearby Garw seam (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

Description

An area of patchworkings, with a quarry face running east-west (Getmapping digital 2000). This area consists of a deep and extensive cutting running on an roughly E-W alignment to the north of the main area of activity (EA042.09.12), connected to it by EA042.09.44, a haulage track or possible tramroad of embanked drystone revetted construction but which has been dismantled by the survey of the 1st edition OS map (1880). The quarry face extends as far as a basin at the east end, with tipping to the south of the trench edge and down slope to the west within the trench itself. The waste material to the south is in the form of stubby lobed tips covered in heather and is located slightly back from the edge of the cutting, whilst the spoil to the west within the trench is covered with acid grassland species, indicating different types of waste relating to differing phases/processes of extraction.

The working faces appear to have been scoured, a hushing leat runs E-W above the north face and scours are visible on the working faces, forming channels and curved embayments at the foot. There is evidence of processing activity against the north face of the cutting, the waste from which cuts the access ramp leading from the rear of the quarry to the spoil tips to the south. There is a series of closely spaced features, set against the sides of the cutting, which typically take the form of /curving banks set against the quarry face.

An example at SO1903613709 (6.8m accuracy) takes the form of a semicircular bank of spoil, c.0.75m high, 3m wide, 1m wide at top, which is centrally cut by a waterlogged linear channel, c.0.25m deep and c.1m wide, possibly an access. The latter feature may have lead to a level entrance, now collapsed. Most of the curvilinear banks, however, are associated with channels and/embayments and appear to relate to scouring.

The boggy area above the trench on the north side contains channels which appear to have been used for scouring/hushing.

A drain feature was noted in the southwest corner of the cutting, running underneath the main N-S track at SO1892313673 (5.8m accuracy), acting to drain the workings.

To the south east of the trench in the area above the south wall of the trench, are a number of shaft workings: a sub-rectangular pit, c.3m by 2m, now partially backfilled with large boulders lies at SO1906613698 (2.6m accuracy); while a large, elongated E-W aligned pit, 2.5m wide at the top, 0.5m wide at the bottom, c.1.5m deep, and 5m long, with sloping sides and a possible slight curvilinear heather-covered bank to the south is located at SO1906513715 (2.5m accuracy).

Associated EAs and IWWs

EA042.09.44

Condition A/B	Significance A?/B	Recommended for scheduling? Yes
Threats Reclamation.		

Recommendations

Survey, consider for scheduling

ID no	Name		
EA042.09.11	Area of leats and hushing leats, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Earthworks and leats		17
NGR	Spatial type	Area	Length
SO1885113511	Polygon	6.029	N/A

Associated PRN/NPRN

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Description

Area of scouring activity, depicted as open unenclosed land on 1st edition OS maps (1880) which shows traces of banks, the possible remains of reservoirs or other water management features associated with scouring activity. Down slope are the remains of scours, possibly coming from a potential leat running approximately east-west (Getmapping digital 2000). This waterlogged area is significantly higher than the adjoining areas and is likely to represent the original ground surface. Three hushing leats (IWW912, 913, 914) run through the area from east to west to scour the faces of EA042.09.09, draining from quarries or trenches further east (within EA042.09.10 and EA042.09.12). The area also contains a NNW-SSE aligned hushing leat running parallel with the upper edge of the trench face within EA042.09.09, to the west.

Associated EAs and IWWs

EA042.09.09, EA042.09.15, IWW900, IWW912, IWW913, IWW914

Condition

A

Significance

B

Recommended for scheduling?

Yes

Threats

Reclamation.

Recommendations

Consider for inclusion along with adjacent areas in a larger scheduled area

ID no	Name	Year 4 ID	Type	Site visit no
EA042.09.12	Quarrying, pits and tips, Bryn-mawr north	EA042	Quarries and tips	17
NGR	Spatial type	Area	Length	
SO1901613452	Polygon	9.919	N/A	

Associated PRN/NPRN

291920: A mine adit at the head of a "valley" formed from spoil tips to the north, east and west. This "valley" is indicated on the 1st. Edition Ordnance Survey maps. The adit is approximately 1.2m x 1.2m and is in an east facing outcrop of the coal measures (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291913: Extensive area of linked quarry faces, typically 50m long x 25m wide x 6m high at the face, and associated spoil heaps (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291912: Trackway from Coedcae Mawr into the quarry area 2.5m wide, cut into the natural to form an even gradient (N. Tinkley, John Winterburn Archaeological Services, August. 2005; Coflein).

291910: The ruins of a rectangular stone building, approximately 4m by 2m and aligned north-south. The dry stone walls survive to a height of 0.2m and are built from laminar blocks of shale with the central core filled with shale fragments. The structure is built between spoil tips and may have been used as a workman's shelter. (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

Description

A curvilinear area of opencast quarry trenches; the main quarry faces forming two sides of an inverted V depicted on 1st edition OS maps (1880), facing northwest and northeast with corresponding clusters of fan tips. The area is best divided into two for convenience, a western and eastern extent.

To the west are groups of well-defined fan tips with larger lobes, orientated northeast-southwest, while the fan tips to the east consists of longer, thinner more randomly placed and aligned individual tips, largely set within an extensive curvilinear quarry trench extending southeast corner towards Coedcae mawr, where a number of shorter, broader tips were noted. This area contains a number of small rectangular features depicted on 1st edition OS maps; see EA042.09.26., EA042.09.45, EA042.09.46, which were found to be worker's huts or shelters. The area is connected to cutting EA042.09.10 by trackway EA042.09.44, possibly a former tramroad.

A number of individual extractive features, shaft/pit workings and levels are found within the eastern area in particular; amongst the tips to the south east a disturbed feature was noted (possibly a recently backfilled shaft?) Immediately east of this are two associated level stone platforms, now grassed-over. Directly opposite the platforms is a possible adit mouth, facing south, the rectangular depression now flooded. Nearby is a low, dry stone stone-built seat like structure set into the lea of a linear tip; this has been tentatively been identified as a shooting butt, though could simply be a quarry workers' seat.

The quarry faces survive better in the northern part of the area, the workings further south having been progressively tipped over.

Near the eastern edge of the tipping a group of small pits and crown pit workings with associated spoil survive, centred on SO19349 13550 (4.2m accuracy); much of the area has been overlain by later tips. The area includes a small extractive trench/cutting in a similar style to areas EA042.09.06 and EA042.09.10, consisting of a quarried mineral crop, with small pits, scoops and exposed quarry faces, with scouring channels extending over the working faces. Further north amongst an area of later tips at SO1932213582 (3.3m accuracy) is a further opencasted trench with quarry faces, scoops and small pits in evidence. Nearby at SO1928413634 (5.4m accuracy) is a scoured quarry face (water from the channel above actively scouring the face), with shale waste at the foot of the face, ironstone nodules visible, and clay overlying the face.

A length of exposed quarry face, also with evidence of scouring is also to be found on the west side of the area at the border with EA042.09.15 at SO1934413425 (4.7m accuracy); here four scouring channels are visible. Evidence of scouring also survives at SO1934613580 (3.2m accuracy) where a scouring channel from the boggy area above runs down into the extractive cutting between tips. Numerous other features were noted in the area, as follows:

at SO1935413450 (6.5m accuracy) a linear stone dump aligned E-W with 3 shallow scoops and associated tips of shale waste.

at SO1914413631 (6.4m accuracy) a linear stone dump, c.8.5m long and angled N-S, in the form of a spread bank of laminar stone and shale.

between SO1932513591 (2.1m accuracy) and SO1932613586 (2.7m accuracy), within the area of the extractive cuttings is a series of

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small pits with rectangular banks of spoil, set against the east wall of the trench.

Possible evidence of processing is provided in the form of sorted and graded spoil associated with a group of 3 closely set platforms, the largest located at SO1931613597 (8.8m accuracy). At SO1929013646 (3.2m accuracy) on the level area just above the edge of the cutting adjacent to a boggy area to the northeast is a small flooded crown pit working, c.5m in diameter. Immediately west of this feature is a leat, one of several which drain the area, and a linear bank c.0.5m high, spread to 7m wide, approximately 32m long, aligned NE-SW, possibly the remains of an embankment of scouring reservoir.

At SO1914313675 (3.2m accuracy) is another area of small pits/shaft workings. The dominant feature of this area is the main quarry face which defines the south extent of the area, which can be easily divided into two sections; a SE-NW aligned section which faces east, and a NE-SW aligned section, which faces west/northwest. The east-facing length has scours over the face, with piles of waste and shale at the foot. Again, there are associated areas of processing and the quarry waste has been tipped on top of the northeast side of a large scouring reservoir (EA042.09.48) within the adjacent area to the south EA042.09.15. The waste associated with the west-facing quarry area comprises mainly haphazard and random linear tips, with some small fan tips. Again, the faces of this quarry have been scoured, with the channels clearly visible, and V-shaped piles of shale at the base.

Processing activity in the area is attested by three workers' huts; EA042.09.26, EA042.09.45 and EA042.09.46. Hut EA042.09.45 is directly opposite a slight embanked platform at SO1911913548 (5.8m accuracy), roughly sub-rectangular in shape and 4m by 4m, with an arm extending 9m to the southwest its interior marked by tipped stone waste.

This area is particularly complex and is likely to contain further features.

Associated EAs and IWWs

EA042.09.15, EA042.09.26, EA042.09.44, EA042.09.45, EA042.09.46, IWW917

Condition	Significance	Recommended for scheduling?
A/B	A?	Yes
Threats		
Reclamation.		

Recommendations

Consider for scheduling, full survey

ID no	Name	Year 4 ID	Type	Site visit no
EA042.09.13	Shallow workings including crown-pit, rake and level workings, Bryn-mawr north	EA042	Workings	17
NGR	Spatial type	Area	Length	
SO1935713221	Polygon	0.8375	N/A	

Associated PRN/NPRN

Description

A linear area of small-scale extractive activity running approximately east-west along a north facing slope, possibly the southern side of a major former W-E aligned scour associated with reservoir EA042.09.48/NPRN 921923, or a predecessor (Getmapping digital 2000). The area contains a series of small, irregular-shaped shallow surface workings, including crown-pit workings along a rake, and small quarry scoops at the base of the slope, following a mineral crop (coal/ironstone). At the southeast end of the area is a row of four small adjacent adit features, cut into the east-facing slope; a rectangular cut adit (or trial adit?), 0.5m deep, 1m wide and 2m long is at SO1943413197 (6.4m accuracy). Immediately to the south at SO1943913186 (6.4m accuracy) is another adit, 3.4m by 1.9m, whilst the southernmost of the group, 2.5m to the south of the former, measures 1.5m wide by 1.5m long. A channel runs N-S along this row of adits mouths, possibly associated with drainage of the workings?

Two scouring channels are visible running NE-SW; at SO1945013187 (6m accuracy) a slightly recessed channel 0.25m deep and 0.75m wide, joins another channel, 0.25m deep and 1m wide, at right angles. Further south a scour/hushing channel runs over the quarry face to the east (part of the major early scoured working west of Coedcaemawr). At SO1944813173 (6.4m accuracy) a sub-rectangular crown-pit working, 1.5m wide and c.1.75m deep was noted, lying west of the hushing leats. Other features on a plateau include group of four excavations (three small pits, and a large linear scoop) and associated tips on the south-facing slope, with a possible collapsed level or adit to the northwest of the group at SO1943213155 (5.4m accuracy). Other features include a small cut (pit/adit) at SO1943113178 (7.8m accuracy).

The main linear workings of the area, take the form of a rake; a sunken linear cut runs along the length of the area from WNW to ESE, contours the north-facing slope, with workings (a series of pits/crown pits) within, above and below. This linear cut feature was probably formed by scouring, and is interrupted at the NW end by a deeper area of scouring channels at SO1925713252 (6.6m accuracy), indicating the linear cut represents a particularly earlier phase of extractive/scouring activity. The linear cut probably also acted as a convenient barrow run, between the various pits. A good example of the scoops cut into the base of the slope is found at SO1929413242 (8.5m accuracy), a slightly rounded elongated scoop 5.6m wide and 1.6m deep, with exposed stone fragments at its base. A low waste tip, 0.5m tall, 6m wide and 7m long, of shale waste, lies to the north of the pit.

Associated EAs and IWWs

EA042.09.15

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Condition	Significance	Recommended for scheduling?
A	A?/B	Yes
Threats		
Reclamation.		

Recommendations

Consider for scheduling with adjacent area, total station survey

ID no	Name	Year 4 ID	Site visit no
EA042.09.15	Scoured landscape with scouring reservoir, tips, quarry face and adits, Bryn-mawr north	EA042	17
NGR	Spatial type	Area	Length
SO1918613262	Polygon	21.08	N/A

Associated PRN/NPRN

291921: A hushing channel aligned east-west and visible for approximately 50m and between 2 and 5m wide. Its northern end is truncated and overlain by later spoil tips and its southern end ends within the banks of an old hushing reservoir (J. Winterburn, John Winterburn Archaeological Services, August 2005; Coflein).

291923: Semicircular embankment 180 metre long with a 2 metre flattened apex 2 metres across. Steeply running sides. This feature is the remnant of a reservoir that was used to feed the hushing channels to the south (L. O'Brien, John Winterburn Archaeological Services, August 2005; Coflein).

292017: A area of 3 hushing channels each up to 6m wide and 2m deep. There is some evidence for transverse dams across the channels at various points along their length. Two small channels, up to 1m wide and 0.5m deep cross between the larger channels and could be the remains of earlier hushing channels. The channels are truncated at their northern end by a spoil tip from a quarry and at their southern end by a quarry (J. Winterburn, John Winterburn Archaeological Services, Sept, 2005; Coflein).

292055: A area of mining activity, approximately 100m x 400m and to a depth of at least 4m. There are numerous spoil tips and shallow pits within the area (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292015: Two adjacent quarries, each 15m east west x 10m x 3m high. Both quarries are in beds of fractured sandstone which splits easily and evenly into thin sheets. Possibly a source of roofing/flooring material (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein).

Description

A very well-preserved area of scouring, with associated tips to the west. Part of the main holding reservoir (EA042.09.48/NPRN 291923) survives. Two dangerous, open shafts are located, immediately north of the eastern edge of the reservoir. This reservoir is relatively early in the extractive sequence in the area, as material from workings within the adjacent area, EA042.09.12, to the north has been tipped over it, and the workings have removed its northern extent. This reservoir may be the remains of that depicted on the 1st edition 1-inch to the mile OS map of c. 1838 (David & Charles), named Bryn-y-gaer pond. Whilst none of the detail associated with the scouring activity are depicted on 1st edition 1:2500 OS map (1880), the edges of the tips which overlie reservoir EA042.09.48/NPRN 291923 are shown. This would indicate the scouring features had been long abandoned by this date. The south and east sides of the reservoir remain clearly visible in the form of well-defined banks running east-west and southwest-northeast. The west side of the reservoir, and a small section in the middle of the south side appear to have been tipped on (EA042.09.12). The reservoir bank has been breached in at least one obvious place, with scours running down slope to the west and south. The original early scours may have run to the west through area EA042.09.11 and scoured EA042.09.09. There also appears to have been early scouring here from this reservoir or a precursor of the adjacent extractive area EA042.09.13 (at a higher level this area displays earlier, shallower scours). At the extreme southeast of the area, directly above the settlement of Clydach Terrace, is an area of higher ground left standing proud by adjacent scouring activity. This area contains a substantial scouring channel (between SO1925713195 and SO1938713106), which would have formerly been connected to reservoir EA042.09.48/NPRN 291923, or a possible forerunner, to the north. Evidence for the management of flow to various points along the adjacent very steeply cut and severely eroded quarry face is provided by the remains of blocking banks (at c. SO1938713106) and elsewhere within the main channels, lateral hushing channels to the quarry face (eg. SO1939113073), and the sites of hushing sluices. This area would benefit from detailed survey. The main scouring leat in this area runs northwest-southeast and diverges into three branches. Of these branches, that to the northwest is the deepest. As already mentioned some of the channels have blocking dams across them to direct the water towards certain parts of the quarry face: an example of a blocking, 0.7m wide and 2m long, was noted at SO1940713112 (7.1m accuracy).

One of the scours from the reservoir, running NW-SE is cut by the tramroad EA042.09.27 at SO1936413329 (5.3m accuracy). The embankment crosses the leat with no visible culvert, suggesting that the tramroad, and the associated quarried area EA042.09.30, post-date the scouring activity. The effects of scouring on the landscape are most clearly demonstrated to the south, there are areas of severe erosion and deep scours on the face. Below this are a linear channel, debris and shale tips (SO1906513359 - 6.3m accuracy). There is an area of crown-pit workings within the scoured area to the south, a group of three lies at SO1917713174 (8.6m accuracy), and there is a level, EA042.09.24. A long north-south quarry face divides the area, separating the elevated scoured plateau above to the east from the lower area of tips below to the west. Levels have been driven into the quarry face, EA042.09.47 is an example, but there were likely originally others. At SO1907013356 (5.6m accuracy) is a scoured quarry embayment c.3m across and 8-10m long with a lot of associated loose shale and debris, as well as large chunks of collapsed bedrock from the main face. In places, this quarry face has been undercut. Large tips of waste and shale lie down slope of the face, and ironstone nodules are visible in the working face. There are large rounded boulders (probably glacial) in proximity to the quarry face. There is a large quarry embayment with working faces up to 2.5-3m high, again with scouring channels over the working face and piles of shale and waste down slope. The undercut quarry face has collapsed in places, creating large piles of laminar slabs of stone. Scouring channels are visible down the face, associated with flushed down scoured waste material at the base, and are also visible above the face, and are cut by the embankment of tramroad EA042.09.27, a disused tramroad (EA042.09.27) which runs roughly east-west crossing the quarry face via an embanked formation on route to the east of the area and a quarry basin, EA042.09.30, with a spur leading to its associated fan tips down slope to the west. This tramroad runs from the west and provides an access route into the quarry. It is associated with a stone-revetted bank, leading to a possible and a rectangular cut feature, which has tentatively been identified as a wheel pit for an inclined plane (to be confirmed). The associated tips lie west of the quarry face, the more extensive of the fan tips appear

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to relate to former adits. Two possible adit entrances lie between the tips, they are slightly revetted, and the northern entrance cut is c.1.75m wide, and the adit portal has collapsed. There is a curving bank to the north and west of the entrance, possibly a barrow run or tramroad formation. This is of stone boulder construction, with hints of revetting and is between 1.5-2m wide. There is a possible further adit mouth (facing southwest) to the southwest of the main entrance, also constructed of boulders, and collapsed, with water draining out of it. Further to the southwest is a large boulder-strewn area, and beyond a series of tips further down slope. The remains of conical tips were identified at the far south of the area.

Associated EAs and IWWs

EA042.09.09, EA042.09.11, EA042.09.12, EA042.09.13, EA042.09.24, EA042.09.27, EA042.09.30, EA042.09.47, EA042.09.48, EA042.09.49

Condition A/B	Significance A?	Recommended for scheduling? Yes
Threats Reclamation.		

Recommendations

Consider for scheduling, full survey

ID no EA042.09.16	Name Coal level, Bryn-mawr north		
Year 4 ID EA042	Type Level		Site visit no 17
NGR SO1813213791	Spatial type Point	Area N/A	Length N/A

Associated PRN/NPRN

Description

Coal level, depicted on 1st edition OS maps (1880), served by tramroad EA042.09.25. The level entrance was flooded on the date of the site visit.

Associated EAs and IWWs

EA042.09.02, EA042.09.25

Condition U	Significance U/D	Recommended for scheduling? No
Threats Unestablished		

Recommendations

None as presently flooded

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ID no	Name		
EA042.09.17	Redvein level, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Level		17
NGR	Spatial type	Area	Length
SO1818113939	Point	N/A	N/A

Associated PRN/NPRN

Description

Entrance to Redvein Ironstone level, depicted on 1st edition OS maps (1880) within area EA042.09.03 and served by tramroad EA042.09.25. The adit mouth faces southwest, is stone-lined and partially collapsed. The course of the tramroad running to the southeast serving the entrance is strewn with boulders and stones. This is only one of several entrances on the area. The main entrance is currently an active stream. This level is situated in a boulder-strewn natural embayment in the hillside, with some

Associated EAs and IWWs

EA042.09.03, EA042.09.25

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Degradation, reclamation works, slight animal activity and erosion

Recommendations

Topographic survey, consider for scheduling

ID no	Name		
EA042.09.18	Coal level, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Level		17
NGR	Spatial type	Area	Length
SO1829413815	Point	N/A	N/A

Associated PRN/NPRN

Description

Coal level depicted on 1st edition OS maps (1880), within area EA042.09.04 and served by tramroad EA042.09.25. The level mouth is located in a depression between tips, which is now flooded

Associated EAs and IWWs

EA042.09.04, EA042.09.25

Condition	Significance	Recommended for scheduling?
U	U/D	No

Threats

Unestablished

Recommendations

None as presently flooded

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ID no	Name		
EA042.09.19	Hut, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1823613751	Point	N/A	N/A
Associated PRN/NPRN			

Description

To the south west of level EA042.09.04, set between the line of the tramroad EA042.09.25, and leat IWW923 (the canalised route of Nant Gwaun-y-Ffa), within the shelter of the tips associated with EA042.09.04 is a small rectangular feature, EA042.09.19. This feature, depicted on the 1st edition OS map (1880), is the remains of a workers' hut or shelter. The hut, approx. 10.6m long by 7.4m wide, is open to the southwest, and defined on three sides by earth and stone banks, c.1.7m wide and c.0.6m high, roughly constructed of rounded water worn stones, probably from clearance. The main axis of the hut is aligned northeast southwest, and the bank on the northwest side extends further south as an amorphous bank ending in a separate mound of stone. The interior, c.4m by c.6m, is slightly depressed and is vegetated with nettles.

Associated EAs and IWWs

EA042.09.04, EA042.09.25

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Track widening, off roading, reclamation.

Recommendations

Consider for scheduling

ID no	Name		
EA042.09.20	Hut, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1838813592	Point	N/A	N/A
Associated PRN/NPRN			

Description

Workers' hut, EA042.09.20, depicted on the 1st edition OS map (1880), is a sub-rectangular structure, c.7.5m north-south by c.4m externally (internal dimensions: c.4.3m by c.2m), defined by low earth and stone banks (c.0.25m high by c.1.5m wide), and located on a level plateau overlooking Nant Gwaun-y-Ffa (a tributary of the River Clydach). The structure has an entrance, c.0.9m wide, in the southeast corner and a possible internal subdivision towards its north end. Stone-facings are particularly visible on the west side of the bank. The presence of other features in the adjacent area including two, well-vegetated, low mounds, possibly of ironstone, and a sunken rectangular reed-filled hollow, possibly for water storage, indicates this area may have been associated with ironstone ore processing. The hut is located immediately to the north of a group of spoil tips. The remains of an ephemeral embanked feature, or enclosure c.5m wide by c.16m long, lies a short distance to the northwest of the hut.

Associated EAs and IWWs

EA042.09.05

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

Off-roading, degradation, reclamation.

Recommendations

Consider for scheduling with the area for group value, survey

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ID no	Name		
EA042.09.21	Hut, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1819913502	Point	N/A	N/A

Associated PRN/NPRN

Description

Workers' hut, EA042.09.21, depicted on 1st edition OS map, comprises a fairly primitive, though massively constructed sub-rectangular platform scoop, with spread banks to the east, west and south sides, which survive to a maximum height of c.0.75m internally (on the southeast side) and are c.2m wide. The banks delineate an area c.7m by c.7m (c.4.25m by c.2.25m internally). The enclosure, located amongst tips, appears to be open on the northwest side. Reeds and nettles obscure the interior of the hut indicating disturbed ground, and soils with enhance nitrogen content. As with several of the other hut structures noted, there is an adjacent boggy area, and there are associated mounds c.0.75m high, grassed over shale waste/ ironstone, which include large boulders.

Associated EAs and IWWs

EA042.09.05

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Off-roading, degradation, reclamation.

Recommendations

Consider for scheduling as part of a group including the area, survey

ID no	Name		
EA042.09.23	Hut, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1835413257	Point	N/A	N/A

Associated PRN/NPRN

Description

A workers' shelter, EA042.09.23, depicted on the 1st edition OS maps, survives as a rectangular hut with a small annexe at its east end, c.6.5m by c.5m (externally including the annexe) defined by banks, between 0.6m and 1m high, of earth and stone. Internally, the main part of the structure is c.3.5m by c.3.75m. The annexe, c.0.65m by c.1m (internal), extends 1.25m beyond the main structure, and has banks c.0.25m high. The construction appears to have been drystone, of local random stone and rubble, though some blocks appear to have been roughly dressed. There is a large mound, possibly of ore, associated with a boggy area to the south, which may originally have been a water channel, perhaps indicating that the ironstone processing was carried out in the immediate vicinity. The hut is located in a sheltered position in the lea of adjacent linear tips, while a linear gully nearby may be the remains of an adit entrance, though this is uncertain. (Initially identified during fieldwork as feature EA042.09.37)

Associated EAs and IWWs

EA042.09.07

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

Off-roading, degradation, reclamation.

Recommendations

Consider for scheduling with wider area for group value, survey

ID no	Name		
EA042.09.24	Coal level, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Level		17

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NGR SO1915813093	Spatial type Point	Area N/A	Length N/A
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Associated PRN/NPRN

Description

Coal level depicted on 1st edition OS maps (1880), associated with EA042.09.49, tramroad, site of. The entrance consists of a cut, -2m wide at the base and c.2m deep, between two stubby lobed spoil tips, and which appears to have been partially backfilled. Of the adit portal itself, 1.25m is exposed, 0.3m below the level of the adjacent track which crosses above the entrance.

Associated EAs and IWWs

EA042.09.15, EA042.09.49

Condition B	Significance B/A?	Recommended for scheduling? Yes
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Threats

Degradation, widening of adjacent track, erosion, reclamation.

Recommendations

Survey, consider for scheduling for group value as part of the wider area

ID no EA042.09.25	Name Tramroad, Bryn-mawr north	
Year 4 ID EA042	Type Tramroad	Site visit no 17
NGR SO1799113159	Spatial type Polyline	Area N/A
		Length 2.305

Associated PRN/NPRN

Description

A length of tramroad running roughly from northeast to southwest through areas of tips, serving Redvein Ironstone level and various coal levels. Much of the tramroad is still clearly defined on the ground, and the line can generally still be followed. In places, (running due north-south at SO1807713672 - 10.9m accuracy) the tramroad formation is still visible, as a linear feature defined by parallel rows of large flat stones, of which the tops are visible, with an external width of 1.15m.

Associated EAs and IWWs

EA042.09.02, EA042.09.03, EA042.09.04, EA042.09.05, EA042.09.16, EA042.09.17, EA042.09.18, EA042.09.19

Condition B/C	Significance B/C	Recommended for scheduling? Yes
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Threats

Some erosion, off-roading, reclamation.

Recommendations

Consider for scheduling for group value as part of wider area, possible survey

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ID no	Name		
EA042.09.26	Structure, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1906713508	Point	N/A	N/A

Associated PRN/NPRN

Description

Rectangular feature depicted on 1st edition OS maps (1880), at the foot of a quarry face. Identified during the site visit as a structure cut into the quarry face, with the northeast wall (back wall of the structure) consisting of neatly cut exposed bedrock. There is a suggestion of low footings to the front, 0.6m wide, and faced by rounded, squared-off boulders on the inside and outside. The southwest corner is overlain by scouring debris. The exposed size of the structure is 2.2m N-S and 1.2m (internally) E-W. Possible workers' shelter.

Associated EAs and IWWs

EA042.09.12

Condition	Significance	Recommended for scheduling?
B	B/A?	Yes

Threats

Off-road vehicles, degradation, reclamation.

Recommendations

Survey, consider for scheduling for group value as part of wider area

ID no	Name		
EA042.09.27	Tramroad, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Tramroad		17
NGR	Spatial type	Area	Length
SO1929713270	Polyline	N/A	0.7038

Associated PRN/NPRN

Description

The 1st edition OS maps (1880) show the line of the tramroad, depicted as a trackway (double set of dashed lines), indicating that it had been dismantled by this date. The line appears to have served quarry EA042.09.30 and ran from here to the west to the area of fan tips, before turning south and entering the Clydach Terrace area. At this point, it branches at approximately SO1889113277 one line continuing west, and the other turning south through the enclosed land of the Clydach Terrace area, where it may have been carried on an incline? The branch above Clydach Terrace is embanked (c.1m in height by 4m wide) and, in places, revetted, the raised formation being c. 1m wide. To the east, as it enters the area of tips and approaches the linear quarry, other linear features were noted on the same alignment, including a bank (possibly just a boundary bank). This bank, 8.5m long, 1.5m wide, is stone-revetted on the north side, and constructed of large rounded boulders and flat stones vertically set (laid on their edges). It is of double-width rough boulder construction, with an extension to the east of a further 1.75m of single large boulders. As it approaches the quarry face, the tramroad may have been carried on an incline as it ascended the slope leading up to the main north-south quarry face, and there is a rectangular cut at the head of this slope, tentatively identified as a possible wheel pit. The line of the tramroad then ascends the quarry face on a revetted formation, and continues east across the scoured area. This stretch survives well and is embanked for much of its length. The top of the bank is generally c.2m wide, and it cuts the earlier scouring channels which run through the area, with no signs of bridging or culverts (e.g. at SO1936413329). It enters a cutting as it turns north at SO1935813295 (6.7m accuracy) this cutting is maximum 1.25m high, c.1m wide at the base and 5.8m wide at the top. The line then doubles back on itself and enters the quarry basin EA042.09.30 from the east.

Associated EAs and IWWs

EA042.09.15, EA042.09.30

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Off-road vehicles, erosion/degradation, reclamation.

Recommendations

Survey, consider for scheduling for group value as part of wider area

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ID no	Name		
EA042.09.30	Quarry, Brynmawr scouring area		
Year 4 ID	Type		Site visit no
EA042	Quarry		17
NGR	Spatial type	Area	Length
SO1930713383	Point	N/A	N/A

Associated PRN/NPRN

Description

A substantial quarry, with a linear entrance and large, saucer-shaped quarry face with some exposed rock face. Linear tips extend from the quarry entrance to the southeast, and there are also waste tips to either side of the entrance. The area is generally well-vegetated. Tramroad EA042.09.27 runs west from here to the area of tips.

Associated EAs and IWWs

EA042.09.15, EA042.09.27

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Erosion, reclamation.

Recommendations

Survey, consider for scheduling as part of group

ID no	Name		
EA042.09.31	Rifle target (Non-ironworks feature)		
Year 4 ID	Type		Site visit no
EA042	Target		17
NGR	Spatial type	Area	Length
SO1825413842	Point	N/A	N/A

Associated PRN/NPRN

291880 Small rectangular building 3m x 3m walls 0.3m thick x 0.5m high with a doorway at the north end. From the north side the wall extends 13m long x 1.75m high of mortared construction, with an earth bank on the west side. The function of the two structures is not apparent, but is assumed to be linked with the quarry activity in the area.
N. Tinkley, John Winterburn Archaeological Services, August. 2005

Description

Within the area of level EA042.09.04, on top of the large tips to the northwest of the level entrance, is a structure, EA042.09.31, this is a rifle target dating to the early part of the 20th century. It is constructed of coursed rubble, and roughly squared-off blocks, mortared, with substantial quoins to the corners. The feature is aligned NW-SE, and comprises a wall, 1.8m in height (13 courses) fronting a substantial earth bank c.20m long and 4.5m wide. At the southeast end of this wall is a small rectangular enclosure or room, 4.35m by 4.15m, with walls c.0.7m thick, and c.0.4m high (3 courses) on the east side and an entrance at the northwest. The interior is obscured by tumble. The main northwest-southeast wall shows evidence of alteration, with a possible blocked opening. A slight rectilinear depression was noted in front of the wall obscured by dense reed growth. The 2nd edition OS map (1904) shows a rifle range in the area, while the 3rd edition (1920) depicts the structure, and identifies it as a target; it is likely that the target dates to the First World War period.

Associated EAs and IWWs

EA042.09.04

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Reclamation.

Recommendations

Survey, consider for scheduling for group value as part of wider area

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ID no	Name		
EA042.09.32	Area of quarrying, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042	Quarry		17
NGR	Spatial type	Area	Length
SO1697313692	Polygon	5.489	N/A

Associated PRN/NPRN

Description

This area consists of a quarry, shown on the 1st edition 1:25,000 OS map of 1880, and also depicted on the 1st edition 1-inch to the mile OS map of c.1840 (David & Charles Edition), and described as a Grit Stone Quarry.

The quarry consists of a series of embayments forming a curvilinear face, which runs almost approximately west-east on a south-facing rock outcrop. The area also contains the associated waste tips and a well-made track (former tramroad shown on map of c.1840) which parallels the area to the south. The quarrying continues (on a smaller scale) west of current A40 road. Although the length of the quarry face is substantial, the working areas are on a small scale and the working face is formed of small, individual embayments. The latter appear to have been scoured; channels run south over the quarry face (example at SO1701313791 - 5.3m accuracy). The associated tips are situated down slope to the south, and are generally small, and random, including small conical and linear tips. There is evidence of processing in the area: piles of graded stone are visible, with some large blocks, though much of this is now grassed-over. Detached from the main area of workings (at SO1714113714 - 11.9m accuracy) is a rectangular quarry scoop c.1m deep with a small associated tip to the southwest. Other, less well-defined, scoops lie to the south, and 3m to the west is a possible crown-pit working. At SO1715013702 (6.2m accuracy) is a possible working/processing area, comprising a small ephemeral rectangular level platform with a slight mound to the west, and a pile of graded material to the south. Further to the north is a larger detached quarry scoop with associated small waste dumps.

Associated EAs and IWWs

EA042.09.33, EA042.09.43, IWW901, IWW902, IWW903, IWW904, IWW905, IWW915

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Off-roading and fly tipping, minor erosion, reclamation.

Recommendations

Consider for scheduling? Further detailed survey, including total station, and possibly Lidar survey. This may also be suitable for a community project including small-scale exploratory excavation.

ID no	Name		
EA042.09.33	Rectangular feature or enclosure		
Year 4 ID	Type		Site visit no
EA042	Enclosure		17
NGR	Spatial type	Area	Length
SO1692613688	Point	N/A	N/A

Associated PRN/NPRN

Description

The possible remains of a small structure, a sub-rectangular enclosure with a slight depression in the interior delineated by an earth and stone bank, which includes both large and small boulders in its construction, and is c.1m high and generally less than 1m in width. The enclosure is c.3m by c.2m internally and measures c.5m by c.2.5m externally.

Associated EAs and IWWs

EA042.09.32, EA042.09.43

Condition	Significance	Recommended for scheduling?
A/B	B/U	Yes

Threats

Off-roading, fly tipping, reclamation.

Recommendations

Include within wider area scheduling?

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ID no	Name		
EA042.09.34	Tips northwest of enlarged Blaen Clydach Reservoir		
Year 4 ID	Type		Site visit no
EA042			17
NGR	Spatial type	Area	Length
SO1715213281	Polygon	2.102	N/A

Associated PRN/NPRN

Description

Fingertips aligned NE-SW to the north of the large modern reservoir at Brynmawr north. Initially noted during a site visit (02/09/2008) not depicted on 1st edition OS maps (or subsequent historic mapping). From A.P.s, appearance suggests these are tips of a linear type typical of 20th century date. Their morphology, and their location next to the Blaen Clydach reservoir, suggests that these are associated with the extension of the reservoir, which occurred after the survey of the 3rd edition OS map (1920).

Associated EAs and IWWs

Condition	Significance	Recommended for scheduling?
B/C	C	No

Threats

Minor erosion, reclamation.

Recommendations

None

ID no	Name		
EA042.09.35	Possible Target		
Year 4 ID	Type		Site visit no
EA042	Target		17
NGR	Spatial type	Area	Length
SO1825913925	Point	N/A	N/A

Associated PRN/NPRN

291865 Situated on the south facing slope, an oval mound 4m x 3m x 1.6m high with a slight depression on the north side. Probably a target point for a rifle range. N. Tinkley, John Winterburn Archaeological Services, July. 2005

Description

This feature is likely to be a target site associated with WWI volunteer training. It comprises a level sunken rectangular platform (filled with reeds), with a prominent bank on the west side approximately 3m by 6m. There is also a raised mound area to the south (c.3m high) and a slight bank on the east side. A target is indicated nearby on the second edition OS map. There is a second more ephemeral platform measuring c.5m by 3m to the north.

Associated EAs and IWWs

Condition	Significance	Recommended for scheduling?
B	U	No

Threats

Reclamation.

Recommendations

Detailed survey, archaeological evaluation

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA042.09.36	Area with hushing leats associated with workings within trench EA042.09.06		
Year 4 ID	Type		Site visit no
EA042	Hushing system		17
NGR	Spatial type	Area	Length
SO1828613156	Polygon	1.024	N/A
Associated PRN/NPRN			
291988			

Description

This is a fairly level area, well-vegetated by heather, crossed by a water channel, probably a hushing leat, which runs parallel and above the west side of extractive trench EA042.09.06. The hushing leat is c.0.5-0.6m deep, 0.5m wide at the base, and c.2m wide at the top. Towards its western end is a possible scouring sluice (site of). The leat flows roughly N-S then makes a right angled turn at SO1825113130) to continue roughly W-E, until it drops over the eastern edge of the area, into trench EA042.09.06 at SO1834013124. At this point, the leat is c.1.75m wide and 0.4m deep. The leat acts to scour the working face of the trench, and a heap of scoured material lies at the base of the trench at this point. Although there appears to have been some disturbance in the area (which interrupts the course of the leat) this area does not appear to have been intensively worked, and may represent the original ground surface.

Associated EAs and IWWs

EA042.09.06

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Reclamation, some erosion at northwest edge

Recommendations

Consider for inclusion within an area of scheduling

ID no	Name		
EA042.09.38	Area of less intensive pitting, Bryn-mawr north		
Year 4 ID	Type		Site visit no
EA042	Pits		17
NGR	Spatial type	Area	Length
SO1855013361	Polygon	2.358	N/A

Associated PRN/NPRN

Description

This elevated area forms a plateau at a significantly higher level than the intensively worked surrounding land. It is depicted as open and unworked moor land on the 1st edition OS maps (1880). The area does contain a small number of small shallow pits and may contain the remains of hushing leats and related features associated with workings within the adjacent areas. The area is very heavily vegetated and as a consequence little was visible on the ground at the time of the field visit. The adjoining areas (EA042.09.07 and EA042.09.40), however, show evidence of scouring/hushing, with channels at the quarry edges and mounds of spoil and scoured material at the base, and it is likely the channels approached these quarry faces through this area.

Associated EAs and IWWs

EA042.09.07, EA042.09.40

Condition	Significance	Recommended for scheduling?
A/B	B/C	Yes

Threats

Reclamation.

Recommendations

Consider for inclusion within any larger scheduled areas

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA042.09.40	Elevated area of small-scale shallow workings		
Year 4 ID	Type		Site visit no
EA042	Workings		17
NGR	Spatial type	Area	Length
SO1861113315	Polygon	4.718	N/A

Associated PRN/NPRN

292024: A 6m diameter pit with an extension in the southwest corner, 2m x 1.5m. The pit is 1.5m deep and has steep regular sides with some spoil within the pit to the northeast side. Located within the coal measures area it is probable that this pit is associated with coal mining operations in the area (J. Winterburn, John Winterburn Archaeological Services, Sept 2005; Coflein).

291900: An area of extraction pits and trenches, up to 6m long (east-west), 3m wide (north-south) and up to 2m deep. Many are irregular and have a sloping entrance from the east. There are some roughly circular pits between 2 and 4m diameter. All can be found on a north facing, gently sloping plateau below a local summit. The pits are located above the coal measure, close to the "five feet Gellideg" coal seam and can therefore be considered to be coal extraction pits (J. Winterburn, John Winterburn Archaeological Services, August 2005, Coflein).

291992: An area of approximately 30m x 50 m containing more than 25 pits, typically 2.5m to 3m diameter and up to 2m. deep. There are banks of spoil surrounding most of the pits which are up to 1.5m high and contain fragments of coal. The area containing the pits probably continued to the north but was covered by spoil tips from later mining activity. These pits have been interpreted as coal extraction pits given their number and location, overlying the coal measures (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

292013: An area 120m x 50m at the top of an opencast valley containing a number of small deep pits and associated spoil heaps, typically 5m dia. X 3m deep (N. Tinkley, John Winterburn Archaeological Services, Sept. 2005; Coflein)

292018: A oval shaped pit 2m x 4m and 1.5m deep with an oval bank of spoil around its perimeter. The spoil is up to 2m wide and 0.5m high. This may be the site of a mine shaft (J. Winterburn, John Winterburn Archaeological Services, Sept. 2005; Coflein).

Description

This area is higher than the surrounding area and probably represents the original ground level before intensive working lowered the surrounding land to its present level. This much higher, relatively flat, plateau, appears to have been subject to less intensive working with small-scale shaft workings including crown-pit workings and patch workings, with some scouring of the faces by hushing channels leading from area EA042.09.38. A good example of the workings in the area is provided by a large, steep-sided shaft working of crown-pit type, c.4.5m in diameter, located at SO1854813492 (5.7m accuracy).

Associated EAs and IWWs

EA042.09.38, IWW916

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes
Threats		
Reclamation.		

Recommendations

Survey, consider for scheduling

ID no	Name		
EA042.09.43	Trackway/Tramroad, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042	Trackway/Tramroad		17
NGR	Spatial type	Area	Length
SO1700313683	Polyline	N/A	0.471

Associated PRN/NPRN

Description

Trackway running W-E, running S of and adjacent to an area of quarrying (EA042.09.32). Shown as a track on the 1st edition 1:25,000 OS map of 1880, earlier cartographic evidence indicates the trackway is on the line of an earlier tramroad: the 1-inch 1st edition OS map of c. 1840 (David & Charles Edition) depicts a tramroad on the same alignment leading to a Grit Stone Quarry (Quarry EA042.09.32). The tramroad formation survives as a slightly embanked trackway, part metalled. Culverts IWW901-905 channel branches of leat IWW915 beneath the feature.

Associated EAs and IWWs

EA042.09.32, EA042.09.33, IWW901, IWW902, IWW903, IWW904, IWW905, IWW915

Southeast Wales Industrial Ironworks Landscapes

Condition	Significance	Recommended for scheduling?
B/C	B/C	Yes

Threats

Reclamation, off-road vehicles, and fly tipping

Recommendations

Consider for scheduling within wider area

ID no	Name		
EA042.09.44	North-south trackway, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042	Trackway (Tramroad?)		17
NGR	Spatial type	Area	Length
SO1903612544	Polyline	N/A	0.3909

Associated PRN/NPRN

Description

This is the access route to quarry EA042.09.10 depicted as a track on the 1st edition OS (1880). This trackway or haulage track follows the line of the western scour within EA042.09.15 to join with tramroad EA042.09.27, and continued south towards Clydach Terrace and Bryn-y-gaer. Ephemeral in places, with the occasional visible flat stone (stone pads?), this feature is visible as an embanked revetted linear scarp as it crosses the tips within EA042.09.12.

This track, part of a wider network of trackways, which provided access to the workings, is possibly on the line of former tramroad (though this is as yet unconfirmed).

Associated EAs and IWWs

EA042.09.10, EA042.09.12

Condition	Significance	Recommended for scheduling?
B	B/C	Yes

Threats

Modern usage of feature as a track to service pylons etc, reclamation.

Recommendations

Consider for scheduling as part of a wider area, survey

ID no	Name		
EA042.09.45	Small stone-built structure, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1315613565	Point	N/A	N/A

Associated PRN/NPRN

Description

Located at the foot of the west-facing quarry face which defines the south edge of area EA042.09.12. This is a sub-rectangular stone-built structure of roughly coursed rubble construction (rounded boulders, platy slabs, and two larger boulders) with rough facing, constructed on a slight platform east-west aligned platform. The south wall, c.7m long, the most substantial is the best preserved with the return wall at the west end being disturbed, that to the east indicated by a scarp below a footpath at the base of the quarried face. The remains indicate a linear arrangement of two or three units or 'compartments' open to the north. The western of these compartments, c.5.4m by c.2.6m (externally), c.4.6m by c.1.8m (internally), is the best defined. The best-preserved area of walling is at the southeast corner, where they survive to 5 courses (0.45m), and are c.0.6m wide. It is likely these low walls represent low footings for a wooden or perhaps turf built hut. To the west of the hut, on the opposite side of the track is a level platform with a large quantity of debris, probably associated with ironstone processing.

Associated EAs and IWWs

EA042.09.12

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Southeast Wales Industrial Ironworks Landscapes

Threats

None identified other than degradation and reclamation.

Recommendations

Consider for scheduling, survey

ID no	Name		
EA042.09.46	Rectangular stone structure, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042	Structure		17
NGR	Spatial type	Area	Length
SO1909213569	Point	N/A	N/A

Associated PRN/NPRN

291910

Description

This small sub-rectangular structure is set in a small rectangular area of level ground in a gully created by the surrounding linear tips, and is slightly tapered to the southeast side. It is slightly sheltered by a hood to the northwest against the slope of the tip. The structure is 5.8m long, and tapers from 2.5m to 2.6m wide. Internally, it measures 4.2m by 1.3m. The main wall is 0.68m wide, but this varies due to tumble and spread to the south and west sides. It is of drystone construction, with facing to the walls and is built of roughly coursed laminar rectangular blocks, very well-covered with moss and lichen. The walls survive to c.0.55m, approximately 7-8 courses. There is no obvious entrance, though the most likely location for the entrance is masked by the tumble on the south side. This may be a processing area, there is a lot of debris associated with it, as well as a pit, c.3m square, to the northeast, in the angle created by two tips, possibly a collecting pond and water source for the processing activity. To the northeast (at SO1912013566 - 7.2m accuracy) is an area of tipping, including a large rounded worn boulder, possibly used as a bucking stone, or otherwise associated with processing.

Associated EAs and IWWs

EA042.09.12

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

None identified other than degradation and reclamation.

Recommendations

Survey, consider for scheduling

ID no	Name		
EA042.09.47	Adit portal, Brynmawr north		
Year 4 ID	Type		Site visit no
EA042q	Adit		17
NGR	Spatial type	Area	Length
SO1913613210	Point	N/A	N/A

Associated PRN/NPRN

Description

This adit is cut into a west-facing quarry face and forms a west-facing cut through the slope and into the rock face, c.1.5m deep at the portal and 1.4m wide at the base. The originally taller entrance appears to have been partially backfilled, forming a bank against the rock face. Above this, the bedrock is exposed to a height of 1.5m, with a void (presumably all that remains open of the original portal) at the base. There are associated linear tips to the west (EA042.09.14). There is also a scouring channel running down the working face to one side. There is a possible secondary entrance, trial adit, or drain to the south, this portal appears to have collapsed, with three large boulders blocking the entrance. This has been separated from the main adit mouth by a spoil heap 13m long, and the entrance appears to have drystone revetting.

Associated EAs and IWWs

EA042.09.15

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Collapse, degradation, reclamation.

Recommendations

Survey, consider for scheduling

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA042.09.48	Brynmawr north scouring reservoir		
Year 4 ID	Type		Site visit no
EA042	Scouring reservoir		17
NGR	Spatial type	Area	Length
SO1920213439	Point	N/A	180m

Associated PRN/NPRN

NPRN 291,923: Semicircular embankment 180 metre long with a 2 metre flattened apex 2 metres across. Steeply running sides. This feature is the remnant of a reservoir that was used to feed the hushing channels to the south. L. O'Brien, John Winterburn Archaeological Services, August 2005, Coflein

Description

Part of the holding reservoir survives. It is of a relatively early date, as later material (EA042.09.12) appears to have been tipped on top. The south and east sides of the reservoir remain clearly visible in the form of well-defined banks running east-west and southwest-northeast. The north and west sides of the reservoir, and a small section in the middle of the south side appear to have been tipped on (EA042.09.12). The reservoir bank has been breached in at least one obvious place, with scours running down slope to the west and south. The original early scours may have run to the west through area EA042.09.11 and scoured EA042.09.09.

Associated EAs and IWWs

EA042.09.15

Condition	Significance	Recommended for scheduling?
A	A?/B	Yes

Threats

Recommendations

Consider for scheduling, full topographic survey

ID no	Name		
EA042.09.49	Coal level tramroad		
Year 4 ID	Type		Site visit no
EA042	Tramroad		17
NGR	Spatial type	Area	Length
SO1918613021	Polyline	N/A	0.3094

Associated PRN/NPRN

Description

Short length of tramroad, a branch of the Disgwylfa tramroad, serving level EA042.09.24, running south from the entrance portal, through the entrance cutting to the associated tips to the south and with a branch coming off to join the main route of the system.

Associated EAs and IWWs

EA042.09.15, EA042.09.24

Condition	Significance	Recommended for scheduling?
B	B	No

Threats

Recommendations

Consider for inclusion in scheduled area

Southeast Wales Industrial Ironworks Landscapes

ID no EA042.10	Name Finger tips, Brynmawr west		
Year 4 ID EA042	Type Tips		Site visit no 17
NGR SO1731912237	Spatial type Polygon	Area 2.260	Length N/A

Associated PRN/NPRN

Description

An area of finger tips, which, to south of the track, are long and narrow radiating out from a central point. North of the track, the tips are shorter and broader. The area also includes a row of three (or possibly more) shallow linear surface workings, c.1.5m wide, possibly level entrances. These are within a small island of survival, a fragment of the original landscape, within an area of reclamation. There are two interconnected linear depressions and one possible pit c.3.5m in diameter, as well as other possible pits or areas of collapse, in the surrounding general area.

Associated EAs and IWWs

Condition D	Significance C/D	Recommended for scheduling? No
Threats Off-roading		

Recommendations

None

ID no EA043.02.04	Name Tramroad, Twyn-cynnordy (Year 2 IWT004(i) Clydach)		
Year 4 ID EA042	Type Tramroad		Site visit no 17
NGR SO1810111321	Spatial type Polyline	Area N/A	Length 0.6313

Associated PRN/NPRN

Description

Two lengths of tramroad on a roughly east-west alignment, north section along the line of the Merthyr, Tredegar and Abergavenny branch of the LNWR, south section forms part of the surviving tramroad IWT004 Clydach. On the north side, (at EA042.02.04) this has been fossilised by a modern path. It is better preserved to the south of reservoir IWW466, where it has been subject to recent attempts at protection, with a geotextile covered by a layer of gravel, although in places this has been damaged and needs to be replaced and re-laid. This tramroad was covered during the GGAT 80 year 2 work on transport networks as IWT004 Clydach.

Associated EAs and IWWs

Condition B	Significance B	Recommended for scheduling? No
Threats Poor condition of protective cover; likely in good condition beneath protective layers		

Recommendations

Repair cover

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA057.02	Mountain Air Quarry		
Year 4 ID	Type		Site visit no
EA057	Quarry		15
NGR	Spatial type	Area	Length
SO1566309223	Polygon	1.917	N/A

Associated PRN/NPRN

07209g: Area of rough ground; site of linear quarries on N facing slopes in 19th century; 06928g.

Description

This area consists of an E-W aligned quarry face depicted on the 1st edition OS map (1879), and the whole area has the appearance of having been dug over. To the northwest are two linear N-S aligned quarry faces, facing each other, with the associated amorphous spoil tips between them in the middle of the quarry cutting. There are further small lobed tips visible to the north and east of this area. These are likely sandstone quarries used for construction; close by is a N-S aligned stone wall, which may have been constructed using stone from this quarry, and there is a lot of stone strewn around the general area, including grit stone, which suggests that these quarries were worked for milling stones as well as for construction. Reservoirs IWW275 and IWW268 are also close by these quarries, which may be associated with the construction of these reservoirs. The main E-W quarry face has been terraced into a natural break in the slope and exploited an outcrop of stone. It appears to have been opencasted on a small scale, and is the largest and lowest of a series of quarries cut into the slope (including EA061.02 and EA61.03) which are of a similar type.

Associated EAs and IWWs

EA061.02, EA061.03

Condition	Significance	Recommended for scheduling?
B	C	No

Threats

Off-road vehicles, and fly tipping.

Recommendations

Control access for off-road vehicles

ID no	Name		
EA061.02	Quarry at Scotch Peter's Reservoir		
Year 4 ID	Type		Site visit no
EA061	Quarry		15
NGR	Spatial type	Area	Length
SO1575808877	Polygon	0.2909	N/A

Associated PRN/NPRN

07210g: Area of disused quarrying located NE of silted reservoir. 06930g and 06931g recorded in HER as quarries.

Description

Small unnamed quarry depicted on 1st edition OS map (1880) appears to be an area of small-scale opencasting with extant quarry faces. This is one of a series (including EA057.02 and EA061.03) of small opencasted/patchworked quarries cut into the north-facing slopes (on both the west and east sides of the track) with amorphous spoil heaps down slope of the worked faces. These terraced quarries form three distinct areas, becoming progressively smaller scale further north. These are likely to have been sandstone quarries, and there is a lot of stone strewn around the general area, including grit stone, which suggests that these quarries were worked for milling stones as well as for construction. The quarry faces appear to have been worked on a relatively small scale, with small embayments cut into the working face, and appear to have cut into the pre-existing natural breaks in the slope.

Associated EAs and IWWs

EA057.02, EA061.03

Condition	Significance	Recommended for scheduling?
B	C	No

Threats

Off road motor-biking causing erosion, and fly tipping in the area.

Recommendations

Control off-road vehicle access

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA061.03	Quarry at Scotch Peter's Reservoir		
Year 4 ID	Type	Site visit no	
EA061	Quarry	15	
NGR	Spatial type	Area	Length
SO1592708790	Polygon	0.1092	N/A

Associated PRN/NPRN

Description

Small unnamed quarry depicted on 1st edition OS map (1880) appears to be an area of small-scale patchworkings, with extant quarry faces. This is one of a series (including EA057.02 and EA061.02) of small opencasted/patchworked quarries cut into the north-facing slopes (on both the west and east sides of the track) with amorphous spoil heaps down slope of the worked faces. These terraced quarries form three distinct areas, becoming progressively smaller scale further north. These are likely to have been sandstone quarries, and there is a lot of stone strewn around the general area, including grit stone, which suggests that these quarries were worked for milling stones as well as for construction. The quarry faces appear to have been worked on a relatively small scale, with small embayments cut into the working face, and appear to have cut into the pre-existing natural breaks in the slope.

Associated EAs and IWWs

EA057.02, EA061.02

Condition	Significance	Recommended for scheduling?
B	C	No

Threats

Off-road vehicles

Recommendations

Control/monitor off-road vehicle access and fly-tipping

ID no	Name		
EA066.02	Old Quarry, Cefn-goleu		
Year 4 ID	Type	Site visit no	
EA066	Quarry	5	
NGR	Spatial type	Area	Length
SO1355607944	Polygon	2.746	N/A

Associated PRN/NPRN

06516g: Tip; 06852g: Large quarry, c200m x 200m, with spoil; 06854g, 06732g, 06733g, 06855g, 06857g, 06862g

Description

Quarry, labelled "Old" on 1st edition OS maps (1878). Survives as an area of quarrying, with main face running east-west, forming a basin in the northeast corner. Smaller lengths of working face lie to the west with evidence of scours on face, and amorphous tips to the south and west (i.e. down slope). On the northern edge of the quarry, there is a water channel with possible evidence of a scouring sluice. There is a possible platform or processing area below the main face in an embayment on the west side. A possible level mouth at SO13505 08003 (6.4m accuracy) appears to have collapsed and been backfilled, and is associated with a small group of stubby fingertips down slope. The area appears to have suffered some damage - ploughing or other disturbance, and appears to have been bulldozed and flattened in areas adjacent to road. It originally extended slightly further south, but the construction of the road has severed the area, creating detached portion EA066.03.

Associated EAs and IWWs

EA066.03, IWW206, IWW210

Condition	Significance	Recommended for scheduling?
B	B	No

Threats

Erosion and fly-tipping (including asbestos)

Recommendations

Topographic survey in conjunction with survey of leats and scouring in the area

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA066.03	Cefn-goleu south		
Year 4 ID	Type		Site visit no
EA066	Quarry		5
NGR	Spatial type	Area	Length
SO1363007836	Polygon	0.1824	N/A

Associated PRN/NPRN

Description

Detached portion of the quarry to the north, EA066.02, this appears to be a small area of shallow surface workings, consisting mainly of tips generated by the workings on the opposite side of the road.

Associated EAs and IWWs

EA066.02, EA066.08, IWW210

Condition	Significance	Recommended for scheduling?
B	B	No
Threats		
Fly tipping and erosion		

Recommendations

Topographic survey as part of EA066.02

ID no	Name		
EA066.04	Workings at Cefn-goleu		
Year 4 ID	Type		Site visit no
EA066	Quarries and tips		5
NGR	Spatial type	Area	Length
SO1380308010	Polygon	2.927	N/A

Associated PRN/NPRN

Description

An area of small-scale shallow surface workings and associated small areas of tipping, remain of possible crown pit workings? and a possible level entrance (EA066.05), noted. The main area adjacent to road consists of small-scale quarrying with small amorphous tips down slope. There is a possible square shaft or depression, at least 0.3m deep, 1.8m by 2m, filled with large boulders and other debris (wood). There are outlying shallow surface workings in the area to the north and very shallow depressions. To the north is a small platform 2.5m by 6m, scarped, with an area of exposed stone down slope. At SO1372708057 (5.7m accuracy) is a shallow sub-circular surface working, with spoil lying mainly on the north side. The area generally has many small depressions, with a possible trial pit; a curvilinear feature, open on the southeast side, with exposed stone on the southeast side. It is c. 9m long by 8m, and narrows to 1.5m on the south side, with a crescent spoil tip on the north side. The access track is slightly sunken, and metalled in parts. It runs roughly northwest-southeast, c.0.2m deep by 2m wide, and is slightly embanked at points on the down slope side.

Associated EAs and IWWs

EA066.05, EA066.06

Condition	Significance	Recommended for scheduling?
B	B	No
Threats		
Off-road vehicles and fly tipping		

Recommendations

Topographic survey as part of EA066.02

Southeast Wales Industrial Ironworks Landscapes

ID no	Name		
EA066.05	Possible Level at Cefn-goleu		
Year 4 ID	Type		Site visit no
EA066	Level?		5
NGR	Spatial type	Area	Length
SO1383507964	Point	N/A	N/A
Associated PRN/NPRN			
06733g?			

Description

This is a possible level entrance at the edge of a quarry face, part of a group of badly damaged features within an area of quarrying. The feature is not shown on 1st edition OS map (1878), and the area, where the possible portal would have been, is now infilled. A number of large stones (quarry waste ?) were noted within the vicinity of the feature. To the south is a linear reed-filled gully, a possible secondary entrance/drain. A long narrow linear tip extends to the east of the possible level entrance. The feature is associated with the line of a possible disused tramroad EA066.06.

Associated EAs and IWWs

EA066.04, EA066.06

Condition	Significance	Recommended for scheduling?
C	U	No
Threats		
Off-road vehicles and fly tipping		

Recommendations

Topographic survey as part of EA066.02

ID no	Name		
EA066.06	Tramroad, Cefn-goleu		
Year 4 ID	Type		Site visit no
EA066	Tramroad?		5
NGR	Spatial type	Area	Length
SO1386707982	Polyline	N/A	0.06426
Associated PRN/NPRN			

Description

The line of a possible tramroad serving possible level EA066.05, it runs roughly northeast-southwest. It is not depicted as a tramroad on 1st edition OS maps (1878), and is now a reed-filled hollow between tips and is of varying width, averaging c.1m wide.

Associated EAs and IWWs

EA066.04, EA066.05

Condition	Significance	Recommended for scheduling?
B/C	C	No
Threats		
Off-road vehicles, fly tipping		

Recommendations

Topographic survey as part of EA066.02

Southeast Wales Industrial Ironworks Landscapes

ID no EA066.07	Name Surface workings, Cefn-goleu		
Year 4 ID EA066	Type Extractive workings		Site visit no 5
NGR SO1337408209	Spatial type Polygon	Area 2.832	Length N/A
Associated PRN/NPRN 06854g			

Description

An area of disturbed ground with numerous surface workings, including a large quarry which is not depicted as an extractive area on 1st edition OS maps (1878/80), but appears to have been used for building stone as there is very little associated spoil or waste, only a few small tips. There are exposed rock faces in the interior, as well as lots of large boulders and stones. Gullies are visible in the vicinity, which are possibly related to topsoil scouring, although there is no evidence of leats above. The area consists of small scoops, exposed areas of scree and stone and small spoil heaps, typically c.0.5m high by 1-2m wide, which probably represent the clearance of non-usable stone and surface spoil material. Much of the waste material appears to be sandstone or grit stones - this quarry may have yielded stones for milling, as well as building stone. One scoop forms an elongated triangular shape with rubble spoil down slope, large stones in the interior and strewn around the general area. A metalled trackway runs through the area with small shallow quarries adjacent on either side for metalling. Close to the original boundary of enclosed land, which is depicted on first edition OS maps, and adjacent to the metalled track, there is an area of stone clearance, which may have been the source of stone for the boundary bank and wall (which is still visible) as well as for local construction and other field boundaries. There is a possible curvilinear leat following the slope of the hill, with large quantities of dumped stone, probably of later date. Within this leat is a D-shaped stone structure, with a stone and earth bank on the down slope side, possibly a shooting butt. Close to the scoops and stone dumps is an area of stone which appears to have been graded and sorted. A small quarry lies at the far north of the area: a sunken reed-filled linear entrance passage leads to the quarry face. There are further small-scale workings (trial workings?) and associated tips (not visited) to the northwest of the area possibly relating to coal extraction.

Associated EAs and IWWs

IWW206

Condition B	Significance C/U	Recommended for scheduling? No
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Threats

Serious fly tipping issues, including the burning of dumped material, off road vehicles.

Recommendations

Topographic survey as part of EA066.02

ID no EA066.08	Name Arched culvert, possible level entrance		
Year 4 ID EA066	Type Culvert		Site visit no 5
NGR SO1361207831	Spatial type Point	Area N/A	Length N/A
Associated PRN/NPRN			

Description

Culvert carrying the road over a scouring channel/level entrance/drain for workings, consisting of a stone-built arch supporting the road. The stone construction is roughly coursed with slightly rusticated voussoirs. Entrance north of the road appears to have been filled

Associated EAs and IWWs

EA066.03

Condition A	Significance B/C	Recommended for scheduling? No
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Threats

Fly tipping, road improvement

Recommendations

Survey and photographic recording

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ID no	Name		
EA071.02	Tramroad, Domen-fawr		
Year 4 ID	Type		Site visit no
EA071	Tramroad		10
NGR	Spatial type	Area	Length
SO1707406246	Polyline	N/A	3.264

Associated PRN/NPRN

06800g: Tramway associated with BG434. Also recorded as a tramroad associated with a level under PRN 06712g

Description

Tramroad depicted on 1st edition OS maps (1880) serving quarries and running south. It includes an inclined plane at the north end. The length of walling EA071.08 runs along the east side of this tramroad for a short distance at the head of the incline where it curves to the south. Engine house EA071.07, and the Fe wheel in EA071.03 are both directly associated with this tramroad. The main branch runs roughly north-south with secondary branches serving individual quarry faces and levels. The tramroad varies in width and condition along its length. It is currently accessed from below by a trackway which is likely an original haulage road. Along much of the length of the tramroad, the slope on the west side has been revetted, with roughly coursed rubble surviving to generally around 5 courses. On the down slope side the tramroad has been revetted for a short length, again in roughly coursed rubble, surviving up to 10 courses. In places (particularly towards the south) the tramroad survives as a metal track embanked on the down slope side.

Associated EAs and IWWs

EA071.03, EA071.07, EA071.08, EA071.09, EA071.10, EA071.11, EA085.05, EA085.07

Condition	Significance	Recommended for scheduling?
A/B	A?/B	Yes

Threats

Degradation, improvement works, drainage, etc

Recommendations

This is part of an area which should be subject to a detailed survey, consider for scheduling as part of a group

ID no	Name		
EA071.03	Quarry at Domen-fawr		
Year 4 ID	Type		Site visit no
EA071	Quarry		10
NGR	Spatial type	Area	Length
SO1692506630	Polygon	6.521	N/A

Associated PRN/NPRN

06802g - Mine; 06798g - Quarry

Description

A series of north-south aligned linear quarries on the east-facing slopes of Cefn Manmoel, depicted on 1st edition OS maps (1880) and served by tramroad EA071.02. This area appears to have been worked over a significant period of time, with a variety of early and later features, with different phases of activity. The dominant feature of the area is the linear series of scoops and quarries which run along the side of the ridge, some of which have the appearance of having been scoured, and the small pits in the slope. The small associated spoil tips down slope are generally slumped and amorphous and appear to consist of both shale and larger blocks of stone. Some of the larger quarry faces have slight trenches in front of them. Along the line of tramroad EA071.02, the slope has been revetted, surviving up to five rough courses. At the far south of the area, the tramroad has also been revetted on its down slope side, at SO 17011 06394. At this point, on the upslope side of the tramroad, there is also evidence of two phases of revetting, the earlier being in the same style as that which is visible elsewhere on the slope, the later style (bonded with dark mortar) being further back, behind the earlier revetting. At this point, they both curve round to the west, away from the tramroad and continue up slope to the west, forming a narrow channel which may be a leat, a pipe trench or possibly a damaged inclined plane. This curved revetting is associated with the ruins of a structure, next to the tramroad on the west side, possibly a workers' hut. It is constructed of red and yellow frogged brick, bonded with dark grey/black mortar, 3.5m long by 3m wide and surviving to a maximum height of 2.3m. The entrance appears to be on the west side of the south wall, and there is a chimney built at an angle into the northwest corner. Approximately 180m to the north along the line of the tramroad, at SO 16994 06560 (6.9m accuracy) is what appears to be a level entrance, cut into the slope directly under the tramroad. The portal faces roughly northeast, the stone-built revetted entrance wall is straight on the north side and curved to the south, with a concrete-reinforced capping slab. The entrance is c.1m high and appears to have been blocked off with a brick wall at some point, though this has now been reopened. Roughly 12m to the southwest, along roughly the same alignment as the level, on the opposite side of the tramroad is a brick-built pillar, directly in front of the quarry face, and directly in front of what may have been an old level entrance in the exposed rock face. This feature, probably a stanchion, possibly associated with an aerial ropeway or with the former tramroad, is 1.9m square, constructed of roughly coursed stone with brick quoins, with grey mortar. The main body of the structure survives to a maximum height of 2.1m, though Fe bolts protrude from the top, and the brick around these survives to a further 0.5m, giving the pillar an overall maximum height of 2.6m. Debris including

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the remains of a concrete capping slab and frogged bricks are littered around the base. Roughly 100m to the north of this, is a further quarry embayment at SO 16962 06634 (2.4m accuracy) c. 50m in length. There are two crown pit workings in front of this quarry, one of which has large blocks of stone in the interior and signs of a void, which may indicate that this was an adit entrance. Close to these pits is a low brick-built structure, 7 courses high, with a triangular concrete capping slab. A further 120m to the north of this is a low platform 1.5m by 2.7m with another brick-built stanchion surviving to c.0.6m in height, constructed of a mixture of brick and stone, with four Fe rods protruding from the top. This appears to be along roughly the same alignment as the stanchion further south, suggesting that they are related, and may have been associated with an overhead feature such as an aerial ropeway. Slightly further along the tramroad, running parallel with it on the west side, is a length of Fe rail, 3.35m long and 0.2m wide, consisting of two parallel strips of Fe on a central bitumen pad. There is a central upright cylindrical spindle c.0.4m high, and an upright Fe strip on the north side of this spindle, which is bent at an acute angle. This feature may be a pivot, crane or part of a weigh bridge, and may have been associated with the tramroad or with the removal of quarried material from the vicinity, or may be a later feature associated with the postulated aerial ropeway. Though no features corresponding to this are visible on either the 1st (1880) or 2nd (1901) edition OS maps, there is a small rectangular feature depicted in approximately this location along a short length of the former tramroad line on the 3rd (1921) edition, suggesting that this may date to after the tramroad fell out of use, and may be associated with a later feature such as the postulated aerial ropeway. The area terminates at its north end with the head of the incline EA071.02, which is in front of another length of quarry face. There are several features associated with the inclined plane; the engine house (EA071.07), a length of curved walling (EA071.08) and the original Fe incline wheel which is c.2.4m in diameter and has been moved out of situ, but is just to the south of the engine house at SO 16905 06790. The quarrying in this area is part of the same activity as took place further south (EA085.07) but has been separated as it was identified as a separate area during year 4 work and has been given a different EA number.

Associated EAs and IWWs

EA071.02, EA071.07, EA071.08, EA071.09, EA071.10, EA071.11, EA085.05, EA085.07

Condition	Significance	Recommended for scheduling?
B	B	No
Threats		
Degradation, improvement works, drainage, etc		

Recommendations

Further detailed work and research, detailed survey.

ID no	Name	Year 4 ID	Type	Site visit no
EA071.07	Engine House, Domen-fawr	EA071	Engine House	10
NGR	Spatial type	Area	Length	
SO1690206806	Point	N/A	N/A	

Associated PRN/NPRN

06799g

Description

Two buildings labelled "Engine House" are shown on 1st edition OS maps (1880). These are listed as 'destroyed' on the HER. A site visit confirmed that, the remains of a demolished engine house structure survives in the area. This engine house appears to have powered the incline which lies immediately to the northeast. (EA071.02). The walls of the structure survive to well over a metre in height, and an Fe boiler remains *in situ*.

The extant remains are likely to be a later twentieth century replacement, and the current layout is different to that on the 1st edition OS map. The remains consist of two interconnected rectangular buildings built into the slope to the north and west. The 1st edition map, however, shows two L-shaped buildings, with a detached rectangular building slightly to the north. By the 2nd edition (1901) this arrangement has been changed with the smaller L-shaped buildings altered or rebuilt; a long narrow building aligned N-S and a smaller detached rectangular building has replaced the earlier structures, an arrangement which survives to be depicted on the 3rd edition OS map (1921). Elements of the original structures appear to survive incorporated into the existing ruinous structure; part of the previous structure is on the same alignment and in almost the same place as the east wall of the larger wing of the surviving building, while the smaller detached structure may be preserved in the smaller of the two surviving buildings. The smaller of the two extant buildings (5.3m by 3m), possibly depicted from the 2nd edition onwards, which now forms a slightly offset annexe to the main structure, has the appearance of an earlier structure; it incorporates more stone than the larger building in its construction, it is built of roughly coursed blocks with large shaped stone quoins. There is a blocked-off entrance to this annexe in its east wall, the barrier being constructed of roughly coursed long narrow slabs, mixed with some large random rubble. The additional entrance in the south wall appears to be a later alteration, the quoins here are brick, while a further gap in the north wall gives access from the annexe to the main structure. This larger building (8.5m by 6.7m) includes more brick in its construction than the smaller annexe. Although the main walls are constructed mainly of large rectangular coursed blocks, the quoins are brick. There is a large entrance in the east wall facing down slope, three gaps in the south wall (one of which immediately opens on to the end of the Fe boiler) one leading into the annexe building, and a possible gap in the west wall, facing into the slope. Very dark (almost black) mortar has been used in both structures, and the tumble which fills the interior of both buildings includes both stone and mixed red and yellow frogged bricks, some of which are stamped "Ebbw Vale". The extensive use of brick in the larger, probably later, structure, and the absence of brick in the smaller, probably earlier, structure, except around the later alteration of the south door, suggests that the creation of this new entrance may date to the same time as the construction of the larger building. The cylindrical

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boiler, c.5.1m long and in excess of 0.5m in diameter, survives in a rusted condition, its main axis parallel with the east wall of the engine house.

The 1st edition OS map shows two buildings just to the south of these, three walls are depicted on the 2nd edition in this area, and no remains survive to be depicted on the 3rd edition. No trace of these was noted on the ground, suggesting these structures have been completely removed. Interestingly, an old coal level is depicted on the 2nd edition maps, on the slope against which the structure is built, which may relate to the best-preserved section of brick walling on the west side of the main building, or possibly to the exposed rock on the slope above the walls of the structure. The original Fe incline wheel which is c2.4m in diameter and has been moved out of situ, but is just to the south at SO 16905 06790.

Associated EAs and IWWs

EA071.02, EA071.03

Condition	Significance	Recommended for scheduling?
B	A?/B	Yes

Threats

Degradation, improvement works, drainage, etc, removal of ironwork

Recommendations

This is in an area which should be covered by a detailed survey, consider for scheduling as part of group, retains significant features

ID no	Name	Year 4 ID	Type	Site visit no
EA071.08	Walling at Domen-fawr	EA071	Walling	10
NGR	Spatial type	Area	Length	
SO1691106801	Point	N/A	N/A	

Associated PRN/NPRN

Description

A length of curved walling along the line of tramroad EA071.02 at the head of the incline, it is aligned roughly north-south and is c.11.4m long. It is constructed of a mixture of stone and brick bonded with a grey mortar. On the west side of the wall (which forms the outside of the curve) there are five small niches with stepped interiors; 0.3m deep, 0.65m wide at the front, narrowing at the step to 0.45m. This side survives to a maximum of 8 courses, while the down slope (east) side survives to 10 courses, and includes more stone, while the west side contains more brick. The wall is faced with coursed brick and dressed stone and has a rubble core. The brick used in the construction of this wall is mixed, both yellow and red bricks are used, some are frogged, while the stone is up to 0.8m in size.

Associated EAs and IWWs

EA071.02, EA071.03

Condition	Significance	Recommended for scheduling?
B	A?/B	Yes

Threats

Degradation

Recommendations

This is part of an area which should be covered by a detailed survey, consider for scheduling as part of group

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ID no EA071.09	Name Brick-built hut and revetted trench		
Year 4 ID EA071	Type Building, revetted trench		Site visit no 10
NGR SO1701506369	Spatial type Point	Area N/A	Length N/A

Associated PRN/NPRN

Description

West of and adjacent to tramroad EA071.02 are the roofless remains of brick-built rail side hut, 3.5m long by 3m wide, which stands to a maximum height of 2.3m. Constructed of red and yellow frogged brick, bonded with dark grey/black mortar. The entrance to the hut appears to be on the west side of the south wall, and there is a chimney built at an angle into the northwest corner. This building is not depicted on historic mapping and appears to be of relatively late date. Behind this building, the slope is revetted with evidence of two phases, the earlier being in the same style as that which is visible elsewhere on the slope, roughly coursed stone with little sign of bonding material. The later phase of revetting is bonded with dark mortar and is further back and upslope behind the earlier revetting. At this point, they both curve round to the west, away from the tramroad and continue up slope to the west, to follow a narrow channel of unknown purpose (? leat or pipe trench, or even possibly a damaged inclined plane/shute from the quarry above).

Associated EAs and IWWs

EA071.02, EA071.03

Condition B	Significance B	Recommended for scheduling? No
Threats Degradation		

Recommendations

Building survey record

ID no EA071.10	Name Trackside Mechanism		
Year 4 ID EA071	Type Weighbridge/crane base/pivot?		Site visit no 10
NGR SO1691806764	Spatial type Point	Area N/A	Length N/A

Associated PRN/NPRN

Description

A length of Fe rail, 3.35m long and 0.2m wide, running parallel with the tramroad. Feature consists of two parallel strips of Fe on a central bitumen pad. There is a central upright cylindrical spindle c.0.4m high, and an upright Fe strip on the north side of this spindle, which is bent at an acute angle. This feature may be a pivot, crane or pivot, and may have been associated with the tramroad or with the removal of quarried material from the vicinity. No corresponding features are depicted on either the 1st (1880) or 2nd (1901) edition OS maps, whilst a small rectangular feature is depicted on the 3rd (1921) edition at this location near a short length of the former tramroad line. As the feature is not depicted until the 3rd edition, by which time the tramroad is disused, it is likely to relate to a later transport system, such as an aerial ropeway; brick stanchions leading towards a level further south might support this possibility.

Associated EAs and IWWs

EA071.02, EA071.03

Condition A/B	Significance A?/B	Recommended for scheduling? Yes
Threats Degradation		

Recommendations

Consider for scheduling as part of group with the associated features, measured survey and record

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ID no	Name		
EA071.11	Level and Stanchion		
Year 4 ID	Type		Site visit no
EA071	Level mouth, stanchion		10
NGR	Spatial type	Area	Length
SO1699306538	Point	N/A	N/A

Associated PRN/NPRN

Description

A level entrance, cut into the slope directly under the tramroad. The portal faces roughly northeast, the stone-built revetted entrance wall is straight on the north side and curved to the south, with a concrete-reinforced capping slab carrying the tramroad over the level entrance. The entrance is c.1m high and appears to have been blocked off with a brick wall at some point, though this has now been reopened. This level is not depicted on the 1st and 2nd edition OS maps (1880 and 1901) but there is a coal level marked here on 3rd edition maps (1921). Roughly 12m to the southwest, along roughly the same alignment as the level, on the opposite side of the tramroad is a brick-built pillar, in front of the quarry face, and directly in front of what may have been an old level entrance in the exposed rock face. This feature, probably a stanchion, possibly associated with an aerial ropeway, with the former tramroad or with the level, is 1.9m square, constructed of roughly coursed stone with brick quoins, with grey mortar (indicating a high quantity of coal dust). The main body of the structure survives to a maximum height of 2.1m, though Fe bolts protrude from the top, and the brick around these survives to a further 0.5m, giving the pillar an overall maximum height of 2.6m. Debris including the remains of a concrete capping slab and froged bricks are littered around the base.

Associated EAs and IWWs

EA071.02, EA071.03

Condition	Significance	Recommended for scheduling?
A/B	B	No
Threats		
Degradation		

Recommendations

Secure entrance with a replacement grille

ID no	Name		
EA085.05	Platforms at Troed-rhiw-clawdd		
Year 4 ID	Type		Site visit no
EA085	Platform		10
NGR	Spatial type	Area	Length
SO1702706339	Point	N/A	N/A

Associated PRN/NPRN

Description

Two parallel rectangular platforms located at the head of what appears to be the remains of a ski-lift, or some such feature associated with the former layout of the Festival Park. These platforms, each roughly 30m long and c.3m wide, are aligned north-south and raised above to either side of a level linear track formation. The alignment of the gully appears to reflect the line of a former tramroad/inclined plane depicted on 1st edition OS maps (1880), EA071.02.

Associated EAs and IWWs

EA071.02, EA071.03

Condition	Significance	Recommended for scheduling?
E	U	No
Threats		
Unestablished		

Recommendations

None

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ID no EA085.07	Name Quarries, Troed-rhiw-clawdd		
Year 4 ID EA085	Type Quarry		Site visit no 10
NGR SO1746805791	Spatial type Polygon	Area 5.498	Length N/A

Associated PRN/NPRN

06712g: level and tramroad. 06711g: coal level and associated buildings. 06710g: coal level.

Description

This area is characterised by a series of linear quarry faces of varying length along the slope (up to about 550m in length), served by tramroad EA071.02 with several small trackways and barrow runs off the main route. The quarry faces, some of which appear to have been scoured are generally west of the tramroad. One example of a length of quarry face has a platform forming a working area at its foot, c.16m in length and a maximum of 0.75m high. The area includes several levels and associated structures depicted on the 1st edition OS map (1880) which were not located during the fieldwork; EA085.08, EA085.15, EA085.18, EA085.19, EA085.20, EA085.21, EA085.22, EA085.23. The quarrying in this area is part of the same activity noted further north within EA071.03.

Associated EAs and IWWs

EA071.02, EA071.03

Condition B	Significance B/U	Recommended for scheduling? No
Threats Degradation		

Recommendations

This area should be covered by a detailed survey and further detailed work and research should be carried out.

Appendix II Year 5 Water Management Features

ID Number	Name		
IWW206	Leat, Ashtree Coal Pit, Tredegar		
NGR	NGR2	Site visit area no	
SO1275207986	SO1359508316	5	
Type	Direction of flow	Associated Ironworks	
Leat	unknown	?	

Associated PRN/NPRN

Description

Leat depicted on 1st edition OS map, which was connected to reservoir IWW203. Also appears to have been used for scouring, skirts the north edge of the workings at Cefn Goleu (EA066.02). Consists of a leat with a bank on the south (downslope) side, with a breach, where the sluice gate would originally have been located, with a scouring channel running downslope from this breach. Bank is of stone and earth construction, with more stone visible in the breach. Bank is c.0.5m high, spread to up to 3m (in the area of the breach) generally spread to 2m, and 1m wide at the top. Bank is larger to the east. Ditch is c.0.5m wide at the base, 2m wide at the top. There are several shallow depressions in the area between the leat and the quarry workings. Flows roughly west to east, curves south towards workings at EA066.02 then contours the hillside and turns north, flowing through EA066.07.

Condition(Year 3)

Partial survival.

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

EA066.02, EA066.07

Recommendations

Topographic survey, including drawn profiles

Recommended for scheduling?

No

ID Number	Name		
IWW209	Reservoir, Cefn Goleu, Tredegar		
NGR	NGR2	Site visit area no	
SO13992 07615			
Type	Direction of flow	Associated Ironworks	
Reservoir	N/A	Tredegar Ironworks?	

Associated PRN/NPRN

06728g

Description

Two adjacent reservoirs depicted on 1st edition OS map, separated by narrow path near Cefn Goleu cemetery. These were possibly used to supply water to Ty-trist colliery, Ashtree Pit via surrounding reservoirs and leats. It is not known whether there was a connection to Tredegar Ironworks. At time of visit, noted that the two reservoirs are now one single body of water. Embankment may have been raised along the southwest side of the reservoir. Embankment now carries unsurfaced vehicular track.

Condition(Year 3)

Survives on modern map as one feature.

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW210

Recommendations

Maintain as current, monitor erosion along top of embankment caused by vehicle use, topographic survey

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW210	Leat, Cefn Goleu, Tredegar		
NGR		NGR2	Site visit area no
SO1276407678		SO1374408049	5
Type		Direction of flow	Associated Ironworks
Leat		east	Tredegar?

Associated PRN/NPRN

Description

Feeder leat for reservoir IWW209 depicted on 1st edition OS map. Runs along the south edge of the workings at Cefn Golau (EA066.03) and the south edge of the cemetery. Stone and earth bank on the downslope side, appears to be draining a boggy area to the west. Crossed in places by tracks and paths but overall good survival.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

EA066.02, EA066.03, IWW209

Recommendations

Topographic survey including drawn profiles

Recommended for scheduling?

No

ID Number	Name		
IWW238	Leat Bryn-pica, Sirhowy		
NGR		NGR2	Site visit area no
SO1461410451		SO1518210600	3
Type		Direction of flow	Associated Ironworks
Leat			Sirhowy

Associated PRN/NPRN

Description

Outlet leat for reservoir IWW232, also serving reservoir IWW239. Running east to reservoir IWW240. Appears to survive on northeast side in area of reservoir IWW240, remainder to southwest not visited but land has been developed and is likely destroyed.

Condition(Year 3)

Largely destroyed, now area of housing, small section at north end survives, may have been diverted underground.

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW240, IWW241, IWW242, IWW244, IWW245, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW240	Reservoir, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1517110745			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Reservoir at Waun-y-Pound possibly used to supply both Sirhowy and Tredegar Ironworks. Also depicted on Tithe Map of Bedwellty Parish. Survives almost unchanged in outline although banks have been faced with concrete arm extending to south has been removed and modern concrete-lined leat established along this line. Area to north has been landscaped.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW241, IWW242, IWW244, IWW245, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

ID Number	Name		
IWW241	Reservoir, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1534310768			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Reservoir at Waun-y-Pound possibly used to supply both Sirhowy and Tredegar Ironworks. Survives well, appears to be generally unaltered. Unlike the larger reservoir IWW240, there is no visible concrete and the banks appear to be largely original.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW240, IWW242, IWW244, IWW245, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW242	Reservoir, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1533910817			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Reservoir at Waun-y-Pound possibly used to supply both Sirhowy and Tredegar Ironworks. No longer survives as a reservoir, though the bank on the south side survives. This area is now an extension of the modern concrete-lined outflow leat for reservoir IWW240, which now forms an extension to the west of leat IWW251, the bank of the former reservoir now form the bank on the downslope side of this leat.

Condition(Year 3)

Possible survival noted on APs.

Condition/value (Year 3)

U

Assessed Condition

U

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW244, IWW245, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

ID Number	Name		
IWW244	Reservoir, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1546210771			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Reservoir at Waun-y-Pound possibly used to supply both Sirhowy and Tredegar Ironworks.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW245, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW245	Reservoir, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1555510806			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Reservoir at Waun-y-Pound possibly used to supply both Sirhowy and Tredegar Ironworks. Not located during visit, appears destroyed.

Condition(Year 3)

Possibly destroyed.

Condition/value (Year 3)

U/D

Assessed Condition

D

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW250, IWW251, IWW252, IWW909, IWW910

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW250	Leat, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO15183 10592		SO15304 10735	3
Type		Direction of flow	Associated Ironworks
Leat		unknown	Sirhowy/Tredegar?

Associated PRN/NPRN

Description

Leat connecting reservoirs IWW240 and IWW241. This survives, though it appears to have been altered and partially redug and concrete-lined to the west, around the reservoir IWW240.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW245, IWW251, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW251	Leat, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO15363 10793		SO15487 10860	3
Type		Direction of flow	Associated Ironworks
Leat		unknown	Sirhowy/Tredeggar?

Associated PRN/NPRN

Description

Substantial leat, connecting reservoirs IWW242 and IWW244, with large bank on south side, particularly in the west part where this leat, and its bank, are the only surviving elements of the original reservoir IWW242, and the course of the leat runs behind the bank of the former reservoir. This leat now acts as an overflow for the reservoir upslope to the west; IWW240.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW245, IWW250, IWW252, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

ID Number	Name		
IWW252	Leat, Waun-y-Pound		
NGR		NGR2	Site visit area no
SO1546510825		SO1556010836	3
Type		Direction of flow	Associated Ironworks
Leat		unknown	Sirhowy/Tredeggar?

Associated PRN/NPRN

Description

Leat connecting reservoir IWW245 with leat IWW251. Although the reservoir IWW245 has now been destroyed, this leat survives, flowing west, with a small bank.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW245, IWW250, IWW251, IWW909, IWW910

Recommendations

Consider for scheduling, range of conservation and presentation measures

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW257	Rhyd-y-blew Pond		
NGR		NGR2	Site visit area no
SO1599611136			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Beaufort

Associated PRN/NPRN

Description

Large reservoir at Rhyd-y-blew associated with Beaufort Ironworks. Part of complex of leats and reservoirs in this area depicted on 1st edition OS map. Now exists in isolation as a drained feature, the bank has been breached and area appears to currently be a building site.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

B/C

Associated IWW/EAs

IWW258

Recommendations

Record bank construction and arrange a topographic survey

Recommended for scheduling?

No

ID Number	Name		
IWW258	Small Rhyd-y-blew Pond		
NGR		NGR2	Site visit area no
SO1609711026			3
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Beaufort

Associated PRN/NPRN

Description

Small reservoir at Rhyd-y-blew associated with Beaufort Ironworks. Part of network of leats and reservoirs in the area depicted on 1st edition OS map. Not accessible during site visit but from visible from a distance, and appears to survive below larger drained and breached reservoir to the north (IWW257).

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW257

Recommendations

Include with topographic survey

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW273	Leat system, Tredegar Ironworks		
NGR	NGR2	Site visit area no	
SO1516608939	SO1628109797	15	
Type	Direction of flow	Associated Ironworks	
Leat	south	Tredegar	

Associated PRN/NPRN

Description

Feeder system for reservoir IWW268. This system generally runs NE-S, contouring the hillslope. The bank of the main leat of the system is c.0.75m wide, spread to 2m on the downslope side, and 0.4m high on the upslope side. This ditch is irregular in width but generally c.2m wide.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

Recommendations

Intensive survey including total station survey and recording of the ditch profiles, to include this system and any other identified water management features in the area.

Recommended for scheduling?

No

ID Number	Name		
IWW275	Scotch Peter's Reservoir, Tredegar Ironworks		
NGR	NGR2	Site visit area no	
SO1551408865		15	
Type	Direction of flow	Associated Ironworks	
Reservoir	N/A	Tredegar	

Associated PRN/NPRN

PRNs 07205g, 06527g

Description

Large reservoir east of Tredegar Ironworks, one of a number in this area depicted on the 1st edition OS map (1880). This reservoir, now in a drained state, retains its plan. The substantial embanked dam survives with a metalled track running along the top of the embankment. The bank is c.3m wide at the top and the stone facing of the interior revetting is visible. This consists of stones placed edge-on into the bank sloping at a 45 degree angle. There is a large breach at the centre of the bank, made when the reservoir was drained. An associated concrete lined spillway and stone lined leat are located at the southern end of the embankment. The partial remains of a wrought iron fence surround the site.

Condition(Year 3)

Drained but form survives.

Condition/value (Year 3)

B

Assessed Condition

B/C

Associated IWW/EAs

IWW277, IWW615

Recommendations

None, preserve as current, limit any further afforestation, monitor any further erosion

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW277	Leat, Tredegar Ironworks		
NGR		NGR2	Site visit area no
SO1556708961		SO1603609103	15
Type		Direction of flow	Associated Ironworks
Leat		unknown	Tredegar

Associated PRN/NPRN

Description

Possible feeder leat for reservoir IWW275. Main feeder leat for the reservoir. The bank on the downslope side is c.0.4m high and spread to 1m wide. The ditch is 1.3m wide and the entire feature has been well-trodden

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

B/C

Associated IWW/EAs

IWW275, IWW615

Recommendations

Profiles across ditch and bank, rapid topographic survey

Recommended for scheduling?

No

ID Number	Name		
IWW283	Georgetown Reservoir, Tredegar		
NGR		NGR2	Site visit area no
SO1554007867			15
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Tredegar?

Associated PRN/NPRN

PRNs 06528g, 07208g

Description

Reservoir, possibly supplying water to Tredegar Ironworks. This reservoir is now a recreational fishing facility. The substantial earthen bank is well grassed-over, and may have been reinforced. No stone facing to the bank is visible.

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW285, IWW286, IWW287, IWW607

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW285	Leat, Georgetown Reservoir, Tredegar		
NGR	NGR2	Site visit area no	
SO1558807865	SO1593707914	15	
Type	Direction of flow	Associated Ironworks	
Leat	unknown	Tredegar?	

Associated PRN/NPRN

Description

Leat serving Georgetown reservoir (IWW283). Appears to exist as a natural mountain stream. A modern pipe culvert under the modern footpath is c.0.6m deep, and c.0.6m wide (though this varies) and drains into the reservoir (IWW283)

Condition(Year 3)

Survives

Condition/value (Year 3)

B

Assessed Condition

B/U

Associated IWW/EAs

IWW283, IWW286, IWW287, IWW607

Recommendations

None, largely within dense forestry

Recommended for scheduling?

No

ID Number	Name		
IWW286	Leat, Georgetown reservoir, Tredegar		
NGR	NGR2	Site visit area no	
SO1524307690	SO1556907814	15	
Type	Direction of flow	Associated Ironworks	
Leat	unknown	Tredegar?	

Associated PRN/NPRN

Description

Leat serving Georgetown reservoir (IWW283). There is an active drainage feature of the same shape, alignment and location as that depicted on the first edition OS map, though this is probably not original. It appears to have been reconstructed, with concrete slab reinforcement, and exists as a concrete spillway and channel downslope.

Condition(Year 3)

survives, though diverted slightly.

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW283, IWW285, IWW287, IWW607

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW287	Leat, Georgetown reservoir, Tredegar		
NGR	NGR2	Site visit area no	
SO1542607829	SO1546407869	15	
Type	Direction of flow	Associated Ironworks	
Leat	unknown	Tredegar	

Associated PRN/NPRN

Description

Small leat probably connecting reservoir IWW283 with leat IWW286. This leat has a v-shaped profile, c.2m wide at the top, and a well-grassed-over bank on the downslope side, c.0.75m at the top and 1-2m wide at the base. It flows down a steep bank and into the main outflow for the reservoir, but was not active at the time of the field visit. There has been recent forestry and planting work in the area, and this feature may have been re-dug.

Condition(Year 3)

destroyed

Condition/value (Year 3)

D

Assessed Condition

A/B

Associated IWW/EAs

IWW283, IWW285, IWW286, IWW607

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW437	Leat, Blaen-clydach		
NGR	NGR2	Site visit area no	
SO1678612262	SO1737313161	17	
Type	Direction of flow	Associated Ironworks	
Leat	southwest	Nant-y-glo	

Associated PRN/NPRN

Description

Leat running west and south from reservoir IWW436. Area visited, area extensively reclaimed and landscaped, part of course now occupied by enlarged Blaen Clydach Reservoir, but portions survive.

Condition(Year 3)

partial survival, sections of modern features follow same course

Condition/value (Year 3)

B

Assessed Condition

B/C

Associated IWW/EAs

IWW915

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW438	Feeder, Blaen-clydach		
NGR		NGR2	Site visit area no
SO1692013006		SO1778013983	17
Type		Direction of flow	Associated Ironworks
Feeder		south	Nant-y-glo

Associated PRN/NPRN

Description

Feeder flowing from northern border of study area, feeding reservoir IWW436 and probably other reservoirs in same complex. Portion within year 3 study area now occupied by large modern reservoir, survives well further north

Condition(Year 3)

Partial survival, largely destroyed by modern reservoir, survival much better outside the study area

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW439, IWW440, IWW441, IWW442, IWW915, IWW922, IWW924

Recommendations

Profiles across ditch, consider for further survey, may not be required, consider for scheduling as part of larger system and wider extractive landscape

Recommended for scheduling?

Yes

ID Number	Name		
IWW439	Leat, Blaen-clydach		
NGR		NGR2	Site visit area no
SO1774313285		SO1791313303	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Small leat connecting reservoir IWW436 and river Clydach IWW441. Part of length survives as modern concrete spillway at barrage on northeast corner of large modern reservoir

Condition(Year 3)

partial survival

Condition/value (Year 3)

B

Assessed Condition

E

Associated IWW/EAs

IWW438, IWW441, IWW442, IWW900, IWW915

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW440	Leat, Blaen-clydach		
NGR		NGR2	Site visit area no
SO1774213290		SO1775213320	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Small leat running from feeder leat IWW438 to reservoir IWW436. Area now occupied by large modern reservoir

Condition(Year 3)

destroyed

Condition/value (Year 3)

D

Assessed Condition

D/E

Associated IWW/EAs

IWW438

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW441	River Clydach		
NGR		NGR2	Site visit area no
SO1790813134		SO1794213339	17
Type		Direction of flow	Associated Ironworks
River		south	

Associated PRN/NPRN

Description

Natural river connected to complex serving Nant-y-glo ironworks

Condition(Year 3)

N/A

Condition/value (Year 3)

N/A

Assessed Condition

B/E

Associated IWW/EAs

IWW438, IWW439, IWW442, IWW900, IWW915

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW442	Leat, Ty-coch		
NGR		NGR2	Site visit area no
SO1732812078		SO1761313039	17
Type		Direction of flow	Associated Ironworks
Leat		south	Nant-y-glo

Associated PRN/NPRN

Description

Leat feeding reservoir IWW443 from reservoir IWW436. Survives as redug/altered feature, active watercourse along the line of this leat to the south, where majority of land has been reclaimed.

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

B/E

Associated IWW/EAs

IWW438, IWW439, IWW441, IWW444, IWW900, IWW915

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW443	Reservoir, Waun-dew		
NGR		NGR2	Site visit area no
SO1724711909			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, part of complex including reservoirs IWW445 and IWW446, supplying Nant-y-glo ironworks, Largely removed and redug and remodelled, footpath now cuts original outline

Condition(Year 3)

Largely destroyed, possible partial survival as small pond

Condition/value (Year 3)

U

Assessed Condition

D/E

Associated IWW/EAs

IWW442, IWW444, IWW445, IWW446, IWW447, IWW448, IWW449

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW444	Leat, Ty-coch		
NGR		NGR2	Site visit area no
SO1745312103		SO1752712271	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Leat feeding reservoir IWW445 from leat IWW442. Substantial leat, bank on the east (downhill) side

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW442, IWW443, IWW445, IWW446, IWW447, IWW448, IWW449

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW445	Reservoir, Waun-dew		
NGR		NGR2	Site visit area no
SO1741212031			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, fed by leat IWW444, from reservoir IWW436, part of complex supplying Nant-y-glo ironworks, including reservoirs IWW443 and IWW446. Survives well, intact though concrete-faced. Dam survives, sluice on south side. Wider area has been opencast and reclaimed, but ponds survived. Now part of a community nature reserve "Beaufort Hill Ponds and Woodland Preservation Society", according to information board, these two ponds (IWW445 and 446) date to between 1796 and 1820, and were part of a series of 5 feeder ponds for Nant-y-glo ironworks, which were later diverted for Corus, Ebbw Vale.

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW442, IWW443, IWW444, IWW446, IWW447, IWW448, IWW449

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW446	Reservoir, Waun-dew "Lower Boat Pond"		
NGR		NGR2	Site visit area no
SO1749911877			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, part of complex supplying Nant-y-glo ironworks, associated with reservoirs IWW445 and IWW443, connected by leats IWW447 and IWW448, possibly also associated with reservoir IWW459, with connecting leat partially underground? Survives well, embankment now concrete-faced but intact. Sluice gate appears to have been rebuilt - modern brick structure. Wider area has been opencast and reclaimed, but ponds survived. Now part of a community nature reserve "Beaufort Hill Ponds and Woodland Preservation Society", according to information board, these two ponds (IWW445 and 446) date to between 1796 and 1820, and were part of a series of 5 feeder ponds for Nantyglo ironworks, which were later diverted for Corus, Ebbw Vale.

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW442, IWW443, IWW444, IWW445, IWW447, IWW448, IWW449

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW447	Leat, Waun-dew		
NGR		NGR2	Site visit area no
SO1731011868		SO1734011961	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Small leat connecting reservoirs IWW445 and IWW446. Survives as a concrete spillway, in original condition other than concrete facing, original stone lining and earth cut are visible.

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW442, IWW443, IWW444, IWW445, IWW446, IWW448, IWW449

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW448	Leat, Waun-dew		
NGR		NGR2	Site visit area no
SO1729011886		SO1732611937	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Small leat connecting reservoir IWW443 and leat IWW447. Survives

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW442, IWW443, IWW444, IWW445, IWW446, IWW447, IWW449

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW449	Leat, Ty-coch		
NGR		NGR2	Site visit area no
SO1734512149		SO1751412439	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Leat running from Ty-coch, possibly fed by well IWW450, connecting to leat IWW442, probably feeding into reservoir IWW443. Area has been disturbed, may survive for some of the original length, though possibly redug

Condition(Year 3)

partial survival

Condition/value (Year 3)

B

Assessed Condition

C

Associated IWW/EAs

IWW442, IWW443, IWW444, IWW445, IWW446, IWW447, IWW448

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW451	Reservoir, Bryn Pit		
NGR		NGR2	Site visit area no
SO1799712369			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, part of complex supplying Nant-y-glo ironworks, connected to complex of reservoirs including IWW424, via leat IWW452. Earth bank construction; 2m wide at top, 4m wide at base. Leat system to N likely removed by reclamation, north side of reservoir altered, though south side survives. Area has likely been largely re-landscaped, bank on south side is breached above current water level (on date of visit)

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

C/B

Associated IWW/EAs

IWW452, IWW454, IWW456, IWW457, IWW458, IWW626, EA042.03.01

Recommendations

Maintain as current and record associated features

Recommended for scheduling?

No

ID Number	Name		
IWW452	Leat, Bryn Pit		
NGR		NGR2	Site visit area no
SO1762012421		SO1801412811	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoirs IWW424 and IWW451. Runs through areas which have been opencasted and reclaimed, original feature likely destroyed though part of length (to north) appears to survive as a modern drain as indicated by mapping (OS 2006 1:10000 Landline data)

Condition(Year 3)

partial survival

Condition/value (Year 3)

B

Assessed Condition

E

Associated IWW/EAs

IWW451, IWW454, IWW456, IWW457, IWW458, IWW626, EA042.03.01

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW454	Leat, Bryn Mawr		
NGR		NGR2	Site visit area no
SO1799712092		SO1805512440	17
Type		Direction of flow	Associated Ironworks
Leat		south?	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting IWW453 to reservoir IWW458, possibly also reservoir IWW451. Stone-lined leat. 1.2m wide at base, max. 0.6m deep stone-arched culvert on S side of field boundary, partially collapsed, culvert itself c.0.6m wide, segmental headed.

Condition(Year 3)

partial survival

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW451, IWW452, IWW456, IWW457, IWW458, IWW626, EA042.03.01

Recommendations

Record culverts, profiles across ditch

Recommended for scheduling?

No

ID Number	Name		
IWW456	Reservoir, Bryn Pit		
NGR		NGR2	Site visit area no
SO18005 12279			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Small reservoir, associated with reservoirs IWW451 and IWW458, part of complex supplying Nant-y-glo ironworks. Survives as boggy area

Condition(Year 3)

survives as pond

Condition/value (Year 3)

B

Assessed Condition

C/U

Associated IWW/EAs

IWW451, IWW452, IWW454, IWW457, IWW458, IWW626, EA042.03.01

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW457	Leat, Bryn Mawr		
NGR		NGR2	Site visit area no
SO1790312077		SO1798612285	17
Type		Direction of flow	Associated Ironworks
Leat		south	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoirs IWW456 and IWW458, part of complex supplying Nant-y-glo ironworks. Well-preserved. Stone-arched culvert over leat, culvert is well-preserved and arch is intact

Condition(Year 3)

May survive as dry channel visible on APs

Condition/value (Year 3)

U

Assessed Condition

A/B

Associated IWW/EAs

IWW451, IWW452, IWW454, IWW456, IWW458, IWW626, EA042.03.01

Recommendations

Record culverts, profiles across ditch

Recommended for scheduling?

No

ID Number	Name		
IWW458	Reservoir, Bryn Mawr		
NGR		NGR2	Site visit area no
SO1794312066			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, part of complex associated with Nant-y-glo ironworks, connected to reservoir IWW456 via leat IWW457. Spillway is concrete-lined to NE feeding into IWW626, recent concrete facing with stone construction visible beneath

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW451, IWW452, IWW454, IWW456, IWW457, IWW626, EA042.03.01

Recommendations

Topographic survey, consider for future community scheme, such as those to the west

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW459	Reservoir, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO1790311478			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir, stated on 1st edition OS maps as being associated with Nant-y-glo ironworks, connected to reservoir IWW468. Survives as a drained area; bank on east side has been breached, this now constitutes a low-lying empty area. A modern bridge has been built over the breached bank and former outflow leats. The area has been reworked and redug; the former leats connecting this reservoir to IWW466 have removed and now consist of a single (natural?) stream

Condition(Year 3)

Possibly buried/drained, although area appears to have been reclaimed

Condition/value (Year 3)

U

Assessed Condition

C

Associated IWW/EAs

IWW460, IWW461, IWW462, IWW463, IWW465, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW460	Reservoir, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO18039 11436			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Small reservoir between reservoirs IWW459 and IWW466

Condition(Year 3)

destroyed, area appears to have been reclaimed

Condition/value (Year 3)

D

Assessed Condition

D/E

Associated IWW/EAs

IWW459, IWW461, IWW462, IWW463, IWW465, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW461	Leat, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO17986 11432		SO18170 11458	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoirs IWW459 and IWW466. Destroyed, now part of a significantly altered landscape, in a community park

Condition(Year 3)

destroyed, area appears to have been reclaimed

Condition/value (Year 3)

D

Assessed Condition

D/E

Associated IWW/EAs

IWW459, IWW460, IWW462, IWW463, IWW465, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW462	Leat, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO17979 11414		SO18025 11452	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Leat connected to reservoir IWW460, possibly connecting to reservoir IWW459, or diverted underground? Destroyed, part of a significantly altered landscape

Condition(Year 3)

destroyed, area appears to have been reclaimed

Condition/value (Year 3)

D

Assessed Condition

D/E

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW463, IWW465, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW463	Leat, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO1799611340		SO1822011452	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoir IWW466 and leat IWW461. Area has been altered and reworked, possibly redug, may survive, in altered form

Condition(Year 3)

largely destroyed, one small section survives, area appears to have been reclaimed

Condition/value (Year 3)

U

Assessed Condition

D/E

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW462, IWW465, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW465	Leat, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO1805211417		SO1812211427	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoirs IWW460 and IWW466. Area has been altered and reworked. Possibly survives only as a natural stream; likely redug, feeds from boggy drained reservoir, formerly IWW459 to extant IWW466

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

C/E

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW462, IWW463, IWW466, IWW468, IWW627

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW466	Reservoir, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO18263 11371			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Reservoir associated with Nant-y-glo ironworks, also connected to reservoir IWW459. Remains similar, though likely largely reworked

Condition(Year 3)

survives

Condition/value (Year 3)

B

Assessed Condition

B

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW462, IWW463, IWW465, IWW468, IWW627

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW468	Leat, Twyn-cynnordy		
NGR		NGR2	Site visit area no
SO1840211431		SO1870811473	17
Type		Direction of flow	Associated Ironworks
Leat		unknown	Nant-y-glo

Associated PRN/NPRN

Description

Leat probably connecting reservoirs IWW466 and IWW467, diverted under railway at connection with IWW467? Outflow leat east from reservoir IWW466 c.2m wide and c.1m deep.

Well grassed over, likely recently redug

Although follows original course, possibly closed off at reservoir end by path or connected by a culvert under the path

Condition(Year 3)

Survives largely intact

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW462, IWW463, IWW465, IWW466, IWW627

Recommendations

Maintain as current, profiles across ditch

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW470	Reservoir, Winch's Row		
NGR		NGR2	Site visit area no
SO1881511189			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Large reservoir, part of complex supplying Nant-y-glo ironworks, associated with reservoirs IWW467, IWW476, and possibly with IWW477. Survives in same shape on the south side, now much reduced in size, north part now infilled and built on

Condition(Year 3)

partial survival

Condition/value (Year 3)

B

Assessed Condition

B/E

Associated IWW/EAs

Recommendations

Maintain as current

Recommended for scheduling?

No

ID Number	Name		
IWW481	Leat, Winch's buildings		
NGR		NGR2	Site visit area no
SO1832010912		SO1844210987	17
Type		Direction of flow	Associated Ironworks
Leat		WNW	Nant-y-glo

Associated PRN/NPRN

Description

Leat connecting reservoir IWW477 and leat IWW483. Survives as active water feature, though may not be original c.0.4m deep, c.1.5m wide aligned ESE-WNW

Condition(Year 3)

Condition/value (Year 3)

D

Assessed Condition

B

Associated IWW/EAs

IWW485, IWW538

Recommendations

Profile across ditch

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW485	Spring, Winch's buildings		
NGR		NGR2	Site visit area no
SO1827410933			17
Type		Direction of flow	Associated Ironworks
Spring		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Spring depicted on 1st edition OS map, possibly feeding reservoir IWW482, supplying Nant-y-glo Ironworks. Appears to survive

Condition(Year 3)

Condition/value (Year 3)

U

Assessed Condition

A/B

Associated IWW/EAs

IWW481, IWW538

Recommendations

None

Recommended for scheduling?

No

ID Number	Name		
IWW538	Spring, Winch's Row		
NGR		NGR2	Site visit area no
SO1850910883			17
Type		Direction of flow	Associated Ironworks
Spring		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Spring depicted on 1st edition OS map, possibly feeding into leat IWW484. Survives as active water feature

Condition(Year 3)

Condition/value (Year 3)

U

Assessed Condition

A/B

Associated IWW/EAs

IWW481, IWW485

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW607	Leat system		
NGR		NGR2	Site visit area no
SO1559007575		SO1584207870	15
Type		Direction of flow	Associated Ironworks
Leat system		west	Tredegar?

Associated PRN/NPRN

Description

Free-draining leat system from Y Domen Fawr mountain and feeder leat IWW278 into Georgetown Reservoir IWW283. At the point where it was visited, the leat is c.0.5m deep and c.1m wide with a bank on the downslope side, and is active where it flows into the reservoir

Condition(Year 3)

Majority of system appears to survive

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW283, IWW285, IWW286, IWW287

Recommendations

Profile across ditch

Recommended for scheduling?

No

ID Number	Name		
IWW615	Drainage system, Scotch Peters Reservoir, Tredegar		
NGR		NGR2	Site visit area no
SO1561808581		SO1597008865	15
Type		Direction of flow	Associated Ironworks
Leat system		west	Tredegar

Associated PRN/NPRN

Description

Free-draining leat system from mountain, feeding into Scotch Peter's Reservoir, IWW275. This leat runs roughly E-W and is now only an ephemeral linear depression 0.6m wide and 0.1-0.15m deep with a slight bank on either side

Condition(Year 3)

Appears to survive intact

Condition/value (Year 3)

B

Assessed Condition

B/U

Associated IWW/EAs

IWW275, IWW277

Recommendations

None

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW622	Leat System, Ebbw Vale		
NGR		NGR2	Site visit area no
SO1749209355		SO1781210094	16
Type		Direction of flow	Associated Ironworks
Leat system		south	Ebbw Vale/Bessemer

Associated PRN/NPRN

Description

Leat system at Ebbw Vale ironworks, appears to feed leat IWW328. Extensive system of substantial leats scouring the slopes of area EA042.01.10. A system of channels and banks directs the water across the slopes to the working faces as well as further south to the long pond system. The main leat runs E-W through the area and likely was used both as a boundary and as a scour. The main E-W branch is a very substantial ditch, varying in size, with a large stone-faced earth bank on its south side. The bank is 0.2m high on the south side, and 1.6m high from the base of the ditch. It is 1m wide at the top and is spread to c.3m at the base. This channel is cut by a second embanked linear feature (path or trackway?). A secondary E-W aligned scour runs parallel to the north of the main one and is c.1m wide and 0.3-0.4m deep. It forms a large curve and joins the main scour. A further N-S aligned scour joins the main channel at SO1767009887 (7.7m accuracy) from the south. This example is 0.3m deep, 0.5-0.6m wide, with a spread bank on the downslope side c.1m wide.

Condition(Year 3)

Appears to survive intact

Condition/value (Year 3)

B

Assessed Condition

A/B

Associated IWW/EAs

IWW920, IWW921, EA042.01.06, EA042.01.10

Recommendations

Detailed mapping and survey of this and the Long Pond system, consider for scheduling

Recommended for scheduling?

Yes

ID Number	Name		
IWW626	Leat system, Bryn-mawr		
NGR		NGR2	Site visit area no
SO1801711931		SO1808412191	17
Type		Direction of flow	Associated Ironworks
Leat system		southwest	Nant-y-glo

Associated PRN/NPRN

Description

System of leats, appears be outflow for IWW458 (Reservoir, Bryn-mawr). Slight embankment to west side of main N-S leat

Condition(Year 3)

Appears to survive, at least in part

Condition/value (Year 3)

B

Assessed Condition

B/C

Associated IWW/EAs

IWW451, IWW452, IWW454, IWW456, IWW457, IWW458, EA042.03.01

Recommendations

Profiles across ditches

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW627	Pond, Tai-Humphrey-Hughes		
NGR		NGR2	Site visit area no
SO1840911334			17
Type		Direction of flow	Associated Ironworks
Pond		N/A	Nant-y-glo

Associated PRN/NPRN

Description

Small pond, probably part of larger system with reservoir IWW466, possibly supplied extractive area, Winch's Pit. Area appears partially landscaped, larger than shown on 1st edition OS maps, though clogged up with modern dumping and fly tipping, including a car. Possibly overflow for IWW470

Condition(Year 3)

Partial survival, although outline appears slightly changed

Condition/value (Year 3)

B

Assessed Condition

E

Associated IWW/EAs

IWW459, IWW460, IWW461, IWW462, IWW463, IWW465, IWW466, IWW468

Recommendations

Clear tipped material

Recommended for scheduling?

No

ID Number	Name		
IWW633	Reservoir, Bryn-mawr water works		
NGR		NGR2	Site visit area no
SO2010313599			17
Type		Direction of flow	Associated Ironworks
Reservoir		N/A	unknown

Associated PRN/NPRN

291878

Description

Reservoir noted on 1st edition maps as associated with the Bryn-mawr water works. NMR description gives 'Disused reservoir 400m E-W x 100m, surrounded by derelict chain link fence on 1.7m high concrete posts with access road and track on the south side. Reservoir dam is at the eastern end, 160m long x 24m wide at the base, and 3m wide at the top x 9m high faced on the inside with stone blocks, upper third cemented together, the outside is grassed. The outfall is a 6 sided concrete plinth 6m x 3m high with an outlet at the base, currently open to drain the reservoir. This is surmounted by a circular tower 4.5m dia 4m high, with an outlet 2m below the top. To the east of the reservoir is an area marked as filter beds on the OS map. All structures are underground and marked with bolted down covers, there are further adjacent underground structures of vaulted brick construction with vent pipes and evidence of demolished above ground structures.' Currently exists in drained state (26/08/2008) but is clearly recognisable; the banks survive well and it is still maintained as a reservoir. An associated network of leats and feeders (Beyond the Heads of the Valleys Initiative boundary) is visible on the mountain to the north and appears to survive well.

Condition(Year 3)

survives extended and drained

Condition/value (Year 3)

B

Assessed Condition

B/E

Associated IWW/EAs

Recommendations

Maintain as current

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW900	Nant Gwaun-y-Ffa		
NGR		NGR2	Site visit area no
SO1832713973		SO1816513632	17
Type		Direction of flow	Associated Ironworks
Stream/leat		SE-NW-SW	

Associated PRN/NPRN

Description

A canalised stream which has been manipulated to maximise its potential for scouring. The 1st edition OS map (1880) depicts it flowing south down the mountain and turning sharply to the northwest at SO1860513595, almost doubling back on itself to contour the slope and follow the edge of the area of workings (EA042.09.05). It appears to have been diverted from its original course, which likely continued south down the mountain, and the original line of this course is visible on the 1st edition map as a linear series of ponds (IWW916).

Condition(Year 3)

Good

Condition/value (Year 3)

Assessed Condition

A/B

Associated IWW/EAs

IWW438, IWW439, IWW441, IWW442, IWW916, IWW923, IWEA042.09.02, EA042.09.04, EA042.04.09, EA042.09.11

Recommendations

Part of larger landscape recommended for scheduling, profiles across feature, investigate area of diversion at southeastern extremity

Recommended for scheduling?

Yes

ID Number	Name		
IWW901	Culvert under tramroad (EA042.09.32)		
NGR		NGR2	Site visit area no
SO1690413670			17
Type		Direction of flow	Associated Ironworks
Culvert		S	

Associated PRN/NPRN

Description

Culvert draining EA042.09.32 running under possible former tramroad EA042.09.43, feeding leat IWW915 which runs SE into modern reservoir, one of a series of culverts under this tramroad. Partially collapsed, small abutments. Approximately 1m wide (collapsed) 3m wide at top (varying to 4m) with substantial bank either side (larger on west side). Culvert itself is approximately 2m tall by 3m wide

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition

B

Associated IWW/EAs

IWW915, EA042.09.32, EA042.09.43

Recommendations

Create drawn record

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW902	Culvert 2 under tramroad EA042.09.32		
NGR	NGR2	Site visit area no	
SO1699813690		17	
Type	Direction of flow	Associated Ironworks	
Culvert	N/A		

Associated PRN/NPRN

Description

Culvert draining EA042.09.32 running under possible former tramroad EA042.09.43, feeding leat IWW915 which runs SE into modern reservoir, one of a series of culverts under this tramroad. Stone lintel visible on upstream side

Condition(Year 3)

Condition/value (Year 3)	Assessed Condition
	B

Associated IWW/EAs

IWW915, EA042.09.32, EA042.09.43

Recommendations

Create drawn record

Recommended for scheduling?

No

ID Number	Name		
IWW903	Culvert 3 cast iron pipe		
NGR	NGR2	Site visit area no	
SO1706913693		17	
Type	Direction of flow	Associated Ironworks	
Culvert			

Associated PRN/NPRN

Description

Cast iron pipe culvert, jagged and broken on downslope (S) side. Culvert draining EA042.09.32 running under possible former tramroad EA042.09.43, feeding leat IWW915 which runs SE into modern reservoir, one of a series of culverts under this tramroad. Approximately 0.6m diameter; 6.4m long under trackway; pipe 0.07m thickness

Condition(Year 3)

Good

Condition/value (Year 3)	Assessed Condition
B (group)/C	B

Associated IWW/EAs

IWW915, EA042.09.32, EA042.09.43

Recommendations

Create drawn record

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number Name
IWW904 Culvert 4 stone lintel

NGR SO1714313665 **NGR2** **Site visit area no** 17

Type Culvert **Direction of flow** S **Associated Ironworks**

Associated PRN/NPRN
291884

Description

Culvert in area EA042.09.32 under tramway EA042.09.43 feeding leat IWW915 running downslope to SE to modern reservoir. Substantial stone-built squared blocks to sides, large squared stone lintel, stone-lined abutments and channel, parts of branch of leat to south sporadically stone-lined, 3.8m in length, 4.5m of stone exposed beyond tramroad. Exposed area of lintel 0.55m wide; 1.1m long

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
B

Associated IWW/EAs

IWW915, EA042.09.32, EA042.09.43

Recommendations

Create drawn record

Recommended for scheduling?

No

ID Number Name
IWW905 Culvert 5 (partially collapsed stone)

NGR SO1717113648 **NGR2** **Site visit area no** 17

Type Culvert **Direction of flow** S **Associated Ironworks**

Associated PRN/NPRN

Description

Small stone-built culvert under tramroad EA042.09.43 in area EA042.09.32. Secondary to IWW904, draining boggy area at quarry face to north, feeding south into leat IWW915. Insubstantial structure of rough stone blocks, metal pipe just visible on south side (likely cast iron). Possible later repair to collapse, condition of latest phase of repair is good 1.1m wide

Condition(Year 3)

Collapsed entrance, opening not visible

Condition/value (Year 3)

Assessed Condition
B/E

Associated IWW/EAs

IWW915, EA042.09.32, EA042.09.43

Recommendations

Create drawn record

Recommended for scheduling?

No

Southeast Wales Industrial Ironworks Landscapes

ID Number Name

IWW909 Spillway of reservoir IWW240

NGR
SO1521310654

NGR2
SO1524510670

Site visit area no
3

Type
Spillway

Direction of flow
southeast

Associated Ironworks

Associated PRN/NPRN

Description

Concrete-lined spillway flowing southeast from reservoir IWW240. Not depicted on first edition OS maps but part of a large system which is depicted and largely survives

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
A

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW245, IWW250, IWW251, IWW252, IWW910

Recommendations

Include as part of recommended scheduled area

Recommended for scheduling?

Yes

ID Number Name

IWW910 Leat, Reservoir IWW240

NGR
SO1518710628

NGR2
SO1520010666

Site visit area no
3

Type
Leat

Direction of flow
south

Associated Ironworks

Associated PRN/NPRN

Description

Leat associated with reservoir IWW240. Altered from the first edition when this area consisted of the south corner of the reservoir. Appears to be a modern branch overflow of the reservoir flowing into a leat (IWW238) depicted on the first edition OS maps as flowing northeast

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
A

Associated IWW/EAs

IWW238, IWW240, IWW241, IWW242, IWW244, IWW245, IWW250, IWW251, IWW252, IWW909,

Recommendations

Include as part of recommended scheduled area

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number Name

IWW912 Leat E-W between EA042.09.11 and EA042.09.09

NGR
SO1875613452

NGR2
SO1894213531

Site visit area no
17

Type
leat

Direction of flow
west

Associated Ironworks

Associated PRN/NPRN

Description

Leat running roughly E-W from EA042.09.11 to pond in EA042.09.09. Possibly used to scour large deep workings in EA042.09.09, secondary branch flows south from main leat for short distance before main face of working area EA042.09.09. Possibly a scour running west from the reservoir EA042.09.15 over the (relatively) unworked area EA042.09.11 (which represents the likely original ground level) to the quarried area in EA042.09.09, scouring the working faces of this area

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
B

Associated IWW/EAs
EA042.09.09, EA042.09.11

Recommendations

Consider for scheduling as part of wider area, draw profiles

Recommended for scheduling?

Yes

ID Number Name

IWW913 Leat N-S between EA042.09.11 and EA042.09.09

NGR
SO1876913344

NGR2
SO1889313426

Site visit area no
17

Type

Direction of flow
south

Associated Ironworks

Associated PRN/NPRN

Description

Leat flowing along west edge of area EA042.09.11 at border with EA042.09.09, possibly scouring the latter. Runs parallel with the edge of EA042.09.11 c.3m from the lip of EA042.09.09. Is 0.75m wide and 0.25m deep at the point at which it runs over the edge of the workings

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
B

Associated IWW/EAs
EA042.09.09, EA042.09.11

Recommendations

Consider for scheduling as part of wider area, draw profiles

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number	Name		
IWW914	Leat S of EA042.09.11 running E-W		
NGR	NGR2	Site visit area no	
SO1889313337	SO1898613449	17	
Type	Direction of flow	Associated Ironworks	
leat	southwest		

Associated PRN/NPRN

Description

Possibly a scour from reservoir EA042.09.15, running along southeast edge of area EA042.09.11. Approximately 3m wide flowing northeast-southwest

Condition(Year 3)

Condition/value (Year 3)	Assessed Condition
	B

Associated IWW/EAs
EA042.09.09, EA042.09.11

Recommendations

Consider for scheduling as part of wider area, draw profiles

Recommended for scheduling?

Yes

ID Number	Name		
IWW915	Leat system north of Pont ar Lwnc		
NGR	NGR2	Site visit area no	
SO1691413681	SO1737813159	17	
Type	Direction of flow	Associated Ironworks	
Leat(s)	southeast		

Associated PRN/NPRN

Description

Leat system comprising a main channel which flows southeast. The OS 1st edition shows the leat entering the Blaen Clydach Reservoir IWW436 at the northwestern end of the reservoir dam. (a point lost to the enlarged reservoir). The system includes at least 3 north-south aligned leats which drain the workings EA042.09.32 to the north via culverts IWW901-905 into the main northwest-southeast leat to the Reservoir. Parts of some of the branch leats, which drain the workings, are stone-lined.

Condition(Year 3)

Condition/value (Year 3)	Assessed Condition
	A/B

Associated IWW/EAs
IWW436, IWW437, IWW438, IWW901, IWW902, IWW903, IWW904, IWW905, and IWW924

Recommendations

Drawn profiles, topographic survey of related drainage features along crest of quarry face

Recommended for scheduling?

No

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ID Number	Name		
IWW916	Gwaun-y-Ffa ponds		
NGR		NGR2	Site visit area no
SO1865213528			17
Type		Direction of flow	Associated Ironworks
Ponds		N/A	

Associated PRN/NPRN

Description

A series of three extant ponds, which are depicted on the 1st edition OS map (1880), forming a line which appears to indicate the original course of the Gwaun-y-Ffa stream prior to its diversion. The northernmost of these ponds is long and narrow and it is likely that these are remnants of a channel which directed water to the workings to the south, EA042.09.09 and possibly EA042.09.40, in order to scour these areas.

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition

B/C

Associated IWW/EAs

IWW900, EA042.09.09, EA042.09.40

Recommendations

Topographic survey and additional investigation

Recommended for scheduling?

Yes

ID Number	Name		
IWW917	Figyn-fawr scouring system		
NGR		NGR2	Site visit area no
SO1940013326		SO1954713549	17
Type		Direction of flow	Associated Ironworks
Leat		south	

Associated PRN/NPRN

Description

This system consists of a leat, which branches into two at the north end and which runs parallel with the edge of the workings of area EA042.09.12 on the northeast side. It appears to have drained the boggy area above the workings and flowed south into Figyn-fawr Pond, which is depicted on the 1st edition OS map (1880), but which has been removed as it is on the border of the opencast area. This leat appears to have been used to scour the quarries and cuttings of EA042.09.12. Associated with the leat, in the boggy area, there is also evidence of a possible holding reservoir, defined by spread earth banks c.0.5m high, c.7m wide and visible for a length of c.32m, running northeast-southwest.

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition

A/B

Associated IWW/EAs

EA042.09.12

Recommendations

Profiles across ditch, consider for scheduling

Recommended for scheduling?

Yes

Southeast Wales Industrial Ironworks Landscapes

ID Number Name

IWW918 Nant melyn scouring system

NGR
SO1973812598

NGR2
SO1995412952

Site visit area no
17

Type
Scours

Direction of flow
south

Associated Ironworks

Associated PRN/NPRN
292033, 292049, 292028

Description

This scouring system, in the west part of EA042.06.03, consists of the banks of a reservoir, (NPRN 292033), a semi-circular earth bank approximately 100m long built on a south facing slope, enclosing an area c.60m x 30m. The bank is 2m high x 4.5m wide at the base and 2m wide at the top. A channel 1m wide crosses the middle of the enclosure, and passes through a 2m wide breach in the bank. A series of three scours (NPRN 292028) is visible issuing from this breach, 2.5m to 3m wide at their top, 1.5m to 2m wide at the base and up to 2m deep. They can be traced for up to c.340m from the reservoir to the southeast. The main branch of this channel has been separately interpreted as a drainage channel (NPRN 292049), a narrow steep sided V-shaped valley running north-south down the hillside, 7m wide at the top, 1m at the bottom, and 2.5m deep.

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition
A/B

Associated IWW/EAs
EA042.06.03

Recommendations

Consider for scheduling

Recommended for scheduling?

Yes

ID Number Name

IWW919 Waun-y-pwll-dwr scouring leat

NGR
SO1994510876

NGR2
SO2141711452

Site visit area no

Type
Leat

Direction of flow
west

Associated Ironworks

Associated PRN/NPRN

Description

A leat depicted on the 1st edition OS map (1880) runs above the working faces of the opencast trenches (EA042.05.03) and scours the quarry faces, curvilinear banks are visible on the face and bays have been formed at the foot of the face. The main leat appears to have flowed west, and curves around past a farmhouse called Waun-y-pwll-dwr before turning south to the trench. The line of the channel has been manipulated to create a scouring system. It has been directed above the face of the trench, running parallel with it, and a series of new parallel cuttings for the leat are visible further back from the edge as the slope has been eroded away by the action of the scouring water. The two parallel channels that are visible have banks of earth and stone. As well as the main leat from the south which turns to the west at a 90 degree angle, two additional parallel channels flow from the east and converge at this point, forming the head of a scour, where a small mound of earth and stone appears to have formed a sluice gate.

Condition(Year 3)

-

Condition/value (Year 3)

-

Assessed Condition
A/B

Associated IWW/EAs
EA042.05.03

Recommendations

Topographic survey with emphasis on areas of scouring sluices, drawn profiles, consider for scheduling

Recommended for scheduling?

Yes

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ID Number	Name		
IWW920	Leat cut by Buff Clay Patch		
NGR		NGR2	Site visit area no
SO1768210150		SO1783210321	16
Type		Direction of flow	Associated Ironworks
Leat		north	

Associated PRN/NPRN

Description

This leat is part of a large and extensive system on the slopes above Ebbw Vale (IWW622). It appears to contour the slope at the north end of the ridge which divides the Ebbw Vale valley from the Ebbw Fach valley. It appears to have flowed north, and is cut by the workings for Buff Clay Patch, depicted on the 2nd edition OS map (1901). It is also cut in two places by a cutting for the tramroad EA042.01.07, though a dashed line on the 1st edition OS map (1880) may indicate that an aqueduct carried the leat over the line.

Condition(Year 3)

-

Condition/value (Year 3)

-

Assessed Condition

A/B

Associated IWW/EAs

IWW622, IWW921, EA042.01.06, EA042.02.07

Recommendations

Include within topographic survey of wider area, drawn profiles, consider for scheduling as part of wider area

Recommended for scheduling?

Yes

ID Number	Name		
IWW921	Dogleg leat above Ebbw Vale		
NGR		NGR2	Site visit area no
SO1774109853		SO1778710066	16
Type		Direction of flow	Associated Ironworks
Leat		north?	

Associated PRN/NPRN

Description

This channel runs just to the north of the main E-W leat/boundary ditch, running parallel with it for a distance of c.30m, then doglegs to the north at SO1776009881 (6.3m accuracy).

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition

A/B

Associated IWW/EAs

IWW622, IWW920, EA042.01.10

Recommendations

Include within topographic survey of wider area, drawn profiles, consider for inclusion within scheduled area

Recommended for scheduling?

Yes

ID Number	Name		
IWW922	Diversion leat north of EA042.09.02		
NGR		NGR2	Site visit area no
SO1774013860		SO1800913998	17

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Type	Direction of flow	Associated Ironworks
Leat	West southwest	

Associated PRN/NPRN

Description

This channel runs parallel with the northern edge of EA042.09.02 to join with IWW438 after c. 300m. Some 60m from its eastern end is a junction with IWW923, which flows southeast from this point (SO1792413957). This leat diverted the course of a stream around the edge of the opencast workings EA042.09.02 to the main feeder channel IWW438, while providing for scouring of the latter, via a network of now ephemeral hushing leats leading south to the edge of the excavations.

Condition(Year 3)

Condition/value (Year 3)	Assessed Condition
	A/B

Associated IWW/EAs
IWW438, IWW923, EA042.09.02

Recommendations

Include within topographic survey of wider area, drawn profiles, consider for inclusion within scheduled area

Recommended for scheduling?

Yes

ID Number	Name		
IWW923	Diversion leat east of EA042.09.02		
NGR	NGR2	Site visit area no	
SO1793413957	SO1831913697	17	
Type	Direction of flow	Associated Ironworks	
Leat	East southeast		

Associated PRN/NPRN

Description

This channel runs parallel with the eastern edge of EA042.09.02 from a point on IWW922 (SO1793413957) to join with IWW900 after c. 470m. This leat diverted water from a stream (as IWW922) around the edge of opencast workings EA042.09.02 to the other main feeder channel IWW900, Nant Gwaun-y-Ffa, while providing a resource for scouring of EA042.09.02, again via a network of short but now ephemeral hushing leats, which lead southwest to the edge of the excavations. The dimensions of the leat were noted: 0.5m deep, c.1.7m wide, with an earth and stone embankment/slight bank on downhill side 2.5m wide at base, 0.6m high, 1.3m wide at top.

Condition(Year 3)

Condition/value (Year 3)	Assessed Condition
	A/B

Associated IWW/EAs
IWW900, IWW922, EA042.09.02

Recommendations

Include within topographic survey of wider area, drawn profiles, consider for inclusion within scheduled area

Recommended for scheduling?

Yes

ID Number	Name		
IWW924	Leat system west of Gwaun-y-Ffa, Mynydd Llangattwg		
NGR	NGR2	Site visit area no	
SO1692013983	SO1766813706	17	
Type	Direction of flow	Associated Ironworks	
leat	south southeast		

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Associated PRN/NPRN

Description

This leat flows in a east southeast direction to join with IWW438 at SO1766823706, drains areas of boggy ground to the north of workings EA042.09.32. The leat also appears to have been used for scouring the quarry faces of EA042.09.32; very ephemeral remains of hushing channels were noted during the fieldwork leading to upper edge of the quarry.

Condition(Year 3)

Condition/value (Year 3)

Assessed Condition

A/B

Associated IWW/EAs

IWW438, IWW915

Recommendations

Drawn profiles, topographic survey of related drainage features along crest of quarry face

Recommended for scheduling?

No

Appendix III Geological Details of Year 5 Areas

Area Number	Area Name	Type	Geological Details ¹⁸	Additional Notes
EA041.03	Tips at Brynserth reservoirs	Tips	Coal Measures: Lower Coal Series: workings on the Rhaslas coal crop at a fault line (WNW-ESE with throw of 18ft to N)	Prominent Linear tips at N edge of Reservoir at Brynserth, shown at upper edge of quarry (1st edition OS), which has been reclaimed. Part of area known to have been leased to Sirhowy Ironworks between 1778-1800
EA042.01.04	Quarry above Ebbw Vale Iron Works	Quarry	Coal Measures: Lower Coal Series: workings at geological boundary (drift) marked grit	Linear quarry face, probably surface ironstone outcrop, E of and upslope of tramroad to Bwlch-y-garn Pit (1 st edition OS)
EA042.01.05	Quarry above Ebbw Vale Iron Works	Quarry and tips	Coal Measures: Lower Coal Series: workings between 2 geological boundaries (drift) marked grit	Small opencast quarry with narrow topped linear tips down slope to W separated by Bwlch-y-garn Pit Tramroad
EA042.01.06	Quarries and scouring above Ebbw Vale Iron Works	Patchworkings	Coal Measures: Lower Coal Series: workings between 2 geological boundaries (drift) marked grit	Upper edge of extractive area associated with Ebbw Vale Ironworks largely subject of reclamation scheme. Extraction trench and linear fan tips to W down slope, also larger opencast trench to N. Evidence of scouring and hushing: hushing leat system survives. E upper edge of area defined by line of Bwlch-y-garn Pit Tramroad, whilst the W extent is defined by a largely N-S aligned linear contour quarry face and reclaimed land beyond

¹⁸ After Geological Survey of Great Britain (England & Wales), 1972 (3rd impression) Abergavenny, Drift Sheet 232

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EA042.01.09	Small quarries, above Ebbw Vale Iron Works	Patchworkings?	Coal Measures: Lower Coal Series: workings on geological boundary (drift) marked grit	Area of quarried outcrop to NE and upslope of EA042.01.04, and a continuation of workings along the same geological feature
EA042.01.10	Shallow workings, agricultural settlement and field system, above Ebbw Vale Iron Works	Field system and agricultural settlement?	Coal Measures: Lower Coal Series: workings between 2 geological boundaries (drift) marked grit	<p>Area of numerous scattered shallow small-scale workings with associated tips, small quarries, and trial pits. A small quarry central to the area has the remains of a small rectangular structure, probably a shelter or pen. A large platform house is located near the boundary of the enclosed land to the S edge, located above the site of a Level (coal) shown on the 1st edition OS. The platform is cut by a footpath/barrow-run leading along the contour to group of workings along the slope to the N. The platform house has an associated relict field system (tumbled stone banks/walls) extending from it with extensive areas of ridge and furrow evident, indicating arable exploitation probably during the post-medieval period. This is likely to have coincided with the increased industrial exploitation of the area from the late 18th century; arable exploitation of the ‘Common Waste’ or upland margins is also a noted feature elsewhere of the Napoleonic War period. The major boundaries of the field system are shown on the 1st edition and later OS maps.</p> <p>A further area of relict enclosure extends to the S now within an area enclosed by standing, though largely unmaintained, drystone walls. This area contains a</p>

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				holding of two adjacent rectangular platform huts with a small rectangular feature upslope, sunken ways, footpaths, and a number of enclosures/pens. Ridge and furrow plough marks extend into the area. The proximity of this group to the iron ore workings (EA042.01.04) is of potential note
EA042.02.02	Tips and opencast trenches, Winchestown	Tips and workings	Coal Measures: Lower Coal Series: workings on the Elled coal crop west of Nantyglo	A series of 3 roughly parallel NW-SE quarry faces contouring the hill side to the S of Llwydcoed, with extensive associated fan tips, shaft workings/pits, rakes, and levels, at least two of which, marked Old Level (coal), are shown on the 1 st edition OS of 1880. The remains of a tramway (EA042.02.01) linking Nantyglo and Beaufort and Bwlch-y-garn Pit via a tunnel just E of Llwydcoed (depicted on the 1 st edition OS) runs E-W within the N confines of the area
EA042.02.07	Truncated workings, west Monmouth Golf Course	Quarry	Coal Measures: Lower Coal Series: workings between the Elled coal crop and a geological boundary (drift) marked grit	A partly reclaimed/landscaped rectangular area of relatively late opencast trench workings formerly characterised by closely spaced flat-topped parallel tips, which survive at its NE end. The workings are first depicted on the 2 nd edition OS map (1901), and named as Buff Clay Patch, at which date a N-S quarry face is depicted working in an E direction, with two short tramway branches linked to the face, taking way waste material, that to the S is shown linked by an access tramway/inclines (now lost to reclamation) to Ebbw Vale Blast Furnaces and beyond. The quarry face is

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				<p>located at a point half way along the final extent of the area at this date.</p> <p>By the 3rd edition OS (1920) the workings are shown disused and are at their maximum extent, the access tramway is described as 'old', and the rails lifted</p>
EA042.03.01	Patchworking and tips, Brynmawr	Patchworking, tips	Coal Measures: Lower Coal Series: no further information	Minor workings within enclosed land between reservoirs of the Nantyglo Ironworks, S of larger patchwork on Waun-rydd NW of the site of Brynmawr Farm. Area between two reservoirs (IWW451 and IWW458) of the Nantyglo ironworks, associated pond IWW456 and associated leats
EA042.05.03	Opencast trenches, Twyn Blaen-nant	Tips and workings	Coal Measures: Lower Coal Series: workings contouring hillside between a geological boundary (drift) marked grit (E-W), and the Elled & Three-Quarter Coal crop. Area crossed by fault line (WNW-ESE with throw of 96ft to S)	<p>An area of opencast contouring the hill side of Twyn Blaen-nant, on the E side of Waun-helygen, above the farmstead of Blaen-y-nant, running on an E-W alignment parallel to the B4248, to curve to the SW SE of Blaen-y-nant. The workings comprise four closely associated major trenches with exposed quarry faces and extensive tipping (fan and linear tips) down slope to the N, W and SW of the workings. The area contains a number of pit/shaft workings, rakes and levels, 2 of which within enclosed land to the W, are identified as 'Old Level (coal) on the 1st edition OS map.</p> <p>Clusters of large open shafts, and pits were noted between the open cast areas; these shaft workings (both shaft mounds and shaft hollows) probably represent both prospecting pits and</p>

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				<p>extractive pits (eg bellpits). Of note was a large collapsed bell pit identified at the SW edge of the E opencast trench.</p> <p>The area also contains good examples of hushing and scouring features (leats, sluices, etc) in the area and the adjacent area to the S, extending to Waun-y-pwll-dwr (location of a header tank? Pumping shaft) in the E, and beyond to connect with an extensive water management system along the NE flanks of Mynydd Coity, and extensive leats tapping into various drainage gullies along the N and W flanks of Mynydd Coity</p>
EA042.06.03	Quarrying, tips and scouring, Bryn-mawr north	Quarry, tips and scouring	Coal Measures: Lower Coal Series: no further information	Shallow workings (patch/quarries and scours) bounded to the E by EA042.06.06, roughly following the line of stream valley of Cwm Nant-melyn, partly reclaimed), down S facing slope. Stream exposure of mineral vein
EA042.06.06	Quarrying, tips and the Nant-melyn farmstead	Quarries and tips	Coal Measures: Lower Coal Series: workings bounded to the E by a fault line (NW-SE with throw to W)	Linear tips and shallow workings roughly follow the line of Nant-melyn stream valley (abandoned farmstead of the same name), down S facing slope. Stream exposure of mineral vein.
EA042.07.02	Coal and Ironstone workings, Bryn-mawr	Quarry and tips	Coal Measures: Lower Coal Series: no further information	Curvilinear Area of 'opencast' coal ironstone workings and Level (coal), N of Bryn-mawr cemetery, contouring gentle NE facing slope
EA042.08.01	Quarrying and tips, Bryn-mawr	Quarries, tips	Coal Measures: Lower Coal Series: short length of workings on the Old Coal crop (E-W), W boundary of area appears to	Curvilinear area of shallow workings/former levels running E-W and contouring the south side of Clydach Dingle. Immediate area to S and W has been subject to reclamation

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			reflect position of short length of uncertain fault line (NW-SE) with throw to NE), running just W of the Clydach Terraces.	
EA042.09.02	Workings and linear lobed tips, Bryn-mawr north	Tips and Workings	Coal Measures: Lower Coal Series: area of workings bounded on its SW side by an uncertain fault line (NW-SE)	An area of workings and tips comprising a slightly curved angle of open quarry faces along NW and NE sides with shaft mounds and levels along face. A single Level (coal) is named on the 1 st edition OS (EA042.09.16), served by a tramroad (EA042.09.25), which serves Levels and workings in adjacent areas. The tips of the area are narrow topped linear lobed or fan tips, generally aligned NE to W, SW and S. The tips indicate the general sequence in which the area has been worked, progressively in a NE direction, though expanding to the E. Major Leats lie upslope and to the NNW and NNE of the area, with evidence of secondary hushing leats (some ephemeral) leading to the quarry face at intervals. The quarry face appears to display evidence of the action of water on material at the quarry face, eg curvilinear embankment of spoil and fine shale deposits (this evidence of hushing activity/ore processing is noted elsewhere within Brynmawr north)
EA042.09.03	Redvein Level, Bryn-mawr north	Level	Coal Measures: Lower Coal Series: discrete area of workings (Ironstone Levels). Millstone Grits of the	A group of 2, possibly more, level workings with an associated fan tip down slope to S, marked on 1 st edition as Redvein Level (Ironstone), the Level entrance is shown connected

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			Farewell Rock formation, lie close by to NE	to the main Disgwydfa Limestone Tramroad by a branch line (part of EA041.09.25). The level entrances are located at what appears to be a spring line, located below a slight scarp
EA042.09.04	Coal level, Bryn-mawr north	Level	Coal Measures: Lower Coal Series: discrete area of workings (Levels). Millstone Grits of the Farewell Rock formation, lie close by to NE	Area of Levels, now flooded, one Level (coal) depicted on 1 st edition OS, with Level mouth connected to tramroad system (EA041.09.25) by tramroad branch with spurs leading to large lobed fan tip to the S, down slope. Small rectangular structure (EA042.09.19), probably a workers' shelter, lies at junction of tramroad spurs at N side of tip.
EA042.09.05	Linear lobed tips, Bryn-mawr north	Tips	Coal Measures: Lower Coal Series: area of tips	Curvilinear area of tips; fan tips and large linear tips with wider tops, some display short lateral lobes, angled. Two workers' huts have been identified in the area, one set on a slight terrace with associated enclosures located below and N of the tips, another of different type set within and on the tips. The area represents waste from the adjacent 5ft coal workings to the E.
EA042.09.06	Opencast trench, Bryn-mawr north	Opencast workings	Coal Measures: Lower Coal Series: curvilinear working	A curvilinear opencast trench representing extraction along the 5ft coal seam. The area includes pit workings; crown pits and rakes, as well as possible levels. Tipping (both linear lobed and tips
EA042.09.07	Workings and linear lobed tips, Bryn-mawr north	Workings and tips	Coal Measures: Lower Coal Series: area of workings	Workings bounded on W by workings on 5ft coal seam; area similar to EA042.09.02
EA042.09.08	Tips, Bryn-mawr north	Tips	Coal Measures: Lower Coal Series: area of tips	A series of large linear heather covered tips ranged NNW-SSE

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EA042.09.09	Linear opencast trench and associated tips, Bryn-mawr north	Workings and tips	Coal Measures: Lower Coal Series: Linear opencast trench workings with a short length of uncertain fault line (NNW-SSE) located a short distance to E	A linear opencast trench with a bowl shaped trench to N with discrete areas of graded stone (?ore) visible. Remains of hushing leats survive around lip of workings. Several linear tips extend to the S within linear scoured quarry/patchworking
EA042.09.10	Linear opencast trench and tips, possible levels, Bryn-mawr north	Workings and tips	Coal Measures: Lower Coal Series: discrete area of workings (linear opencast with possible levels). Millstone Grits of the Farewell Rock formation, lie immediately to N and E	Discrete area of linear opencast trench workings aligned WSW-ENE, with tips along S of trench extending down slope to W. Internal curvilinear embanked features against quarry faces to N, S and E, some contain shallow diggings and possible collapsed level entrances. Hushing leats noted at lip of working
EA042.09.11	Area of leats and hushing leats, Bryn-mawr north	Earthworks and leats	Coal Measures: Lower Coal Series: area with a short length of uncertain fault line (NNW-SSE) running through centre	An extensive area of rough ground, largely bog with leats, and hushing leats. The area may have contained a rudimentary hushing reservoir, though the existence of any associated embankments have yet to be confirmed
EA042.09.12	Quarrying, pits and tips, Bryn-mawr north	Quarries and tips	Coal Measures: Lower Coal Series: Curvilinear area of interlinked quarries/open trench workings, N and E edge approx marks boundary with millstone grit	Extensive area of ironstone quarries and linear waste tips, includes some larger fantips of ?slightly later date. Remains of hushing leats noted above quarry faces, also remains of scouring reservoirs noted
EA042.09.13	Shallow workings including crown-pit, rake and level workings, Bryn-mawr north	Workings	Coal Measures: Lower Coal Series: linear area of shallow surface workings. No further information	Linear area of shallow parallel surface workings including crown-pit workings along mineral vein contouring N facing slope (former scouring channels?), cut through by continued scouring at W and E ends.

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EA042.09.15	Scoured landscape with scouring reservoir, tips, quarry face and adits, Bryn-mawr north	Workings: scouring reservoir, scouring channels, hushing leats linear tips, adits/levels, quarry face, remains of internal tramroad	Coal Measures: Lower Coal Series: area of scours extending S of major scouring reservoir, includes a variety of surface and level workings. No further information	Extensive area of scouring with well-preserved scouring reservoir, deep scours, and hushing leats. The area contains surface quarries and level workings, pits and associated tips. An internal tramroad traverses the area W-E from N of Clydach Terraces to linear opencast trench working (EA042.09.30)
EA042.09.32	Pont ar Lwnc extractive area	Quarry	Millstone Grits of the Farewell Rock formation: series of quarried faces extending E-W across B4560 N of Pont ar Lwnc	Quarries with ephemeral remains of hushing leats and piles of stone/waste. Tramroad branch line (EA042.09.43)
EA042.09.34	Tips northwest of enlarged Blaen Clydach Reservoir	Tips	Millstone Grits of the Farewell Rock formation: tips	Tips associated with quarry to construct reservoir embankment extension
EA042.09.36	Area with hushing leats associated with workings within trench EA042.09.06	Hushing system	Coal Measures: Lower Coal Series: area with hushing leats	Surviving area of higher ground with remains of hushing leats associated with EA042.09.06
EA042.09.38	Area of less intensive pitting, Bryn-mawr north	Pits	Coal Measures: Lower Coal Series: area of less intensively worked landscape	Largely unworked area with sparse pitting along E edge. Possibly represents fragment of original land surface cut through by opencast scour/quarries and partially tipped over by EA042.09.07 to NW, while bounded by shallow workings (patches) of EA042.09.40 to N and E.
EA042.09.40	Elevated area of small-scale shallow workings	Shallow surface workings including crown-pit workings	Coal Measures: Lower Coal Series: area of shallow workings along mineral vein/coal seam	Curving area of small-scale shallow surface workings, along the line of a vein, both opencut and shaft-line rakes of crown pit workings (shaft mounds) and shaft hollows along E-facing scoured edge of adjacent area. At S end is a wider area of more disturbed ground (partly fenced and not open access land), with numerous amorphous humps and bumps, pits and possible

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				levels and evidence of scouring, and elongated fantips at S extent of area.
EA042.10	Finger tips, Brynmawr west	Tips	Coal Measures: Lower Coal Series: remnants of tips and workings SW of Ty-coch, and old coal crop.	Poorly preserved remnant of finger tips aligned down slope to E and SE, E extent as defined on 1 st and later edition OS maps. Located within reclaimed area S of site of former Old Level (coal) depicted on 1 st edition OS. A further Old Level (coal) lay to the NE at Ty-coch (1 st edition OS).
EA057.02	Mountain Air Quarry	Quarry	Coal Measures: Lower Coal Series: linear quarry working running WSW-ENE along geological boundary (drift) marked Grit	Stone Quarry (one of a series of 3 quarries exploiting parallel outcrop of Millstone Grit/sandstone. Probably for building stone
EA061.02	Quarry at Scotch Peter's Reservoir	Quarry	Coal Measures: Lower Coal Series: small linear quarry working running WSW-ENE along geological boundary marked Grit	Stone Quarry (one of a series of 3 quarries exploiting parallel outcrop of Millstone Grit/sandstone. Probably for building stone
EA061.03	Quarry at Scotch Peter's Reservoir	Quarry	Coal Measures: Lower Coal Series: small linear quarry working running WSW-ENE along geological boundary (drift) marked Grit	Stone Quarry (one of a series of 3 quarries exploiting parallel outcrop of Millstone Grit/sandstone. Probably for building stone

Southeast Wales Industrial Ironworks Landscapes

EA066.02	Old Quarry, Cefn-goleu	Quarry	Coal Measures: Lower Coal Series: quarry (associated with EA066.03)	Small quarry which extends S of Mountain road (see EA066.03) between Tredegar and Rhymney. Old Quarry on 1 st edition OS. Short internal track to road shown on 1 st edition OS. Leat (direction of flow W-E) located to the N upslope of Quarry, detours S to quarry lip. Ephemeral channels noted leading to Quarry face suggest hushing.
EA066.03	Cefn-goleu south	Quarry	Coal Measures: Lower Coal Series: quarry (associated with EA066.02)	Small extension of EA066.02.
EA066.04	Workings at Cefn-goleu	Quarries and tips	Coal Measures: Lower Coal Series: quarry	Small Quarry N of Cefn-Goleu Cemetery, internal features better detailed on 3 rd edition OS map when area noted as Old Quarry. Two E-W aligned linear depressions are shown leading to Quarry face (possibly to levels?). Spoil tips down slope to E.
EA066.07	Surface workings, Cefn-goleu	Extractive workings	Coal Measures: Lower Coal Series: minor extraction of surface stone and a single quarry scoop	Minor stone extraction probably for building stone (for field boundaries and construction industry)
EA071.03	Quarry at Domen-fawr	Quarry	Pennant Series, Pennant Grit: three linear quarries for Pennant stone contouring E flank of Cefn Manmoel, aligned N-S; two, possibly more, coal levels on Red Ash/ Tillery Coal Crop	An area of quarries and levels (coal) linked by incline and tramroad to Victoria Ironworks (1 st edition OS), with further links to Victoria Colliery (Prince of Wales Pits) and beyond to Ebbw Vale Ironworks. One Old Level (coal) marked on 1 st edition OS with spoil extending down side of track (tramroad disused by 1 st edition OS. Internal tramroad to quarries shown on 1 st edition, 2 engine houses named at head of incline.

Southeast Wales Industrial Ironworks Landscapes

EA085.07	Quarries, Troed-rhiw-clawdd	Quarry	Pennant Series, Pennant Grit: three parallel linear quarries with other small quarries for Pennant stone contouring E flank of Cefn Manmoel, aligned NW-SE (S of area EA071.03); three identified coal levels on Red Ash/ Tillery Coal Crop	An area of quarries and levels (coal) linked by incline and tramroad to Victoria Ironworks (1 st edition OS), with further links to Victoria Colliery (Prince of Wales Pits) and beyond to Ebbw Vale Ironworks. Three Levels (coal), E and down slope of quarries shown linked by tramroad to Victoria tramroad network on OS 1 st edition. Track shown accessing upper quarry only with no tramroad link to quarries depicted on 1 st edition, therefore quarries abandoned prior to 1880.
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Appendix IV Plates

**Bryn-serth
EA041.03**



Plate 1. Tips EA04.03 view to west with reservoir IWW240 in foreground

Winchestown

EA042.02.02 (including EA042.02.01, EA042.02.04, EA042.02.05, EA043.02.04)



Plate 2. EA042.02.02 hushing channel at working face in foreground view to northeast



Plate 3. EA042.02.02 parallel hushing channels above working face view to east

**Area above Ebbw Vale Iron Works
Formerly enclosed agri-industrial landscape EA042.01.10 (including
EA042.01.12, EA042.01.13, EA042.01.14 and EA042.01.15)**



Plate 4. EA042.01.10, view down linear cut/possible trial adit with its western end cut by dry stone bank (3.2m long by 1.5m wide), view to west



Plate 5. House platform EA042.01.13, view to west



Plate 6. Workings to the north of EA042.01.13, view to the north



Plate 7. Platform houses/long huts EA042.01.15, view to west

Unenclosed extractive landscape (EA042.01.04, EA042.01.05, EA042.01.06, EA042.01.09, including EA042.01.07)



Plate 8. Tips and scours in quarry EA042.01.06, view to northeast



Plate 9. Quarry face and associated waste EA042.01.04, view to south



Plate 10. Platform, Quarry and associated tips EA042.01.05, view across tramroad EA042.01.07 to east



Plate 11. Tramroad EA042.01.07 with tips associated with EA042.01.05, view to north



Plate 12. Quarried outcrop showing scoop with piles of graded material EA042.01.09, view to north east

**Brynmawr
Above Clydach Dingle (EA042.08.01 and EA042.08.06)**



Plate 13. View of EA042.08.01, view to the east



Plate 14. View of EA042.08.06, view to the east

Coal and Ironstone Workings and fragments amongst reclamation (EA042.03.01, EA042.07.02, EA042.07.03 and EA042.10)



Plate 15. Working face and large pit, shaft working or bell pit (foreground) EA042.07.02, view to southwest



Plate 16. Working face and shaft working (foreground) EA042.07.02, view to south

**Twyn Blaen-nant
Extractive trenches (EA042.05.03, EA042.05.11)**



Plate 18. Quarry Trench 1 EA042.05.03, view to east



Plate 19. Collapsed shaft working (bell pit) EA042.05.03, view to east



Plate 20. Parallel scouring leats at lip of Trench 1 EA042.05.03, view to west



Plate 21. Remains of homestead EA042.05.10, view to west



Plate 22. Trench 2 EA042.05.03, view to west



Plate 23. Trench 3 EA042.05.03, view to west



Plate 24. Trench 4 EA042.05.03, view to west



Plate 25. Group of rectangular huts EA042.05.11, view to north west

**Nant-melyn
EA042.06.03 and EA042.06.06**



Plate 26. Workings at the head of Nant-melyn EA042.05.03 with reclaimed opencast area to left, view to west



Plate 27. Workings at the head of Nant-melyn EA042.05.06, view to south

**Brynmawr north
Clydach Terrace Area (West EA042.09.02, EA042.09.03, EA042.09.04,
EA042.09.05, EA042.09.06, EA042.09.07, EA042.09.08, EA042.09.09,
EA042.09.36, EA042.09.38, EA042.09.40)**



Plate 28. Area of linear lobed tips EA042.09.02, view to west south west



Plate 29. Level entrance, tips and linear stone dump at Redvein Level EA042.09.02, view to south



Plate 30. Flooded Level entrance and tips EA042.09.03, view to north



Plate 31. Open ended structure EA042.09.19, workers hut within area EA042.09.04, view to north east



Plate 32. Area of tips EA042.09.05 (background), with extractive trench EA042.09.06 (foreground), view to north



Plate 33. Rectangular structure EA042.09.20, workers' hut, view to north



Plate 34. Sub-rectangular structure EA042.09.21, workers' hut located within area of tips, view to north east



Plate 35. Area of tips EA042.09.07 (upper right) from EA042.09.38, view to west



Plate 36. General view of structure EA042.09.23, workers' hut and associated mound (?ironstone), view to south east



Plate 37. Structure EA042.09.23, detail of workers' hut, view to west



Plate 38. Area of tips EA042.09.08 from area EA042.09.07 (foreground), view to north north east



Plate 39. Deep open-cast trench working at head of EA042.09.09, view to north



Plate 40. Area of patch workings, shallow shaft workings EA042.09.40, view to west

Clydach Terrace Area (East EA042.09.10, EA042.09.12, EA042.09.13, EA042.09.15)



Plate 41. Head of opencast trench EA042.09.10, view to north east



Plate 42. Quarry faces within area EA042.09.12, view to south



Plate 43. Structure EA042.09.45 quarry workers' hut at quarry face, view to north



Plate 44. Structure EA042.09.46 quarry workers' hut among tips, view to north west



Plate 45. Structure EA042.09.26 quarry workers' shelter against quarry face, view to north west



Plate 46. Workings along north facing slope EA042.09.13, view to east south east



Plate 47. Example of scoured ironstone quarry face within main scour down eastern side of EA042.09.15, view to east



Plate 48. Adit/level portal EA042.09.47 partially blocked, view to east



Plate 49. Scouring reservoir embankment EA042.09.48 within area EA042.09.15, view to west



Plate 50. Head of quarry EA042.09.30, view to north west



Plate 51. Tramroad EA042.09.27, embanked section, view to north west



Plate 52. Coal Level EA042.09.27, and route of associated tramroad, view to north

**Quarries north of Pont ar Lwnc and tips associated with modern reservoir
(EA042.09.32 and EA042.09.34)**



Plate 53. Quarry EA042.09.32, face and tips, view to southwest

**Mountain Air and Scotch Peter's Reservoir
EA057.02, EA061.02 and EA061.03**



Plate 54. Quarry EA057.02, view to east



Plate 55. Quarry EA061.02, view to west

Cefn-goleu
EA066.02, EA066.03, EA066.04, EA066.07



Plate 56. Quarry EA066.02, view to south showing spoil tips and scouring channel (foreground) from leat IWW917



Plate 57. Culvert EA066.08 carrying the B4256 across area of workings between EA066.03 and EA066.02, view to north



Plate 58. Quarry EA066.04, view to east showing spoil tips



Plate 59. Large Quarry scoop within area EA066.07, view to north west

**Domen-fawr and Troed-rhiw-clawdd
EA071.03 and EA085.07**



Plate 60. Remains of northern Engine House EA071.07 with boiler *in situ*, view to west



Plate 61. Incline wheel associated with EA071.07, and walling EA071.08, view to east south east



Plate 62. EA071.10 trackside mechanism: pivot or points feature on tramroad EA071.02, view to south



Plate 63. Scoured quarry face to the north of EA071.11, part of EA071.03, view to south



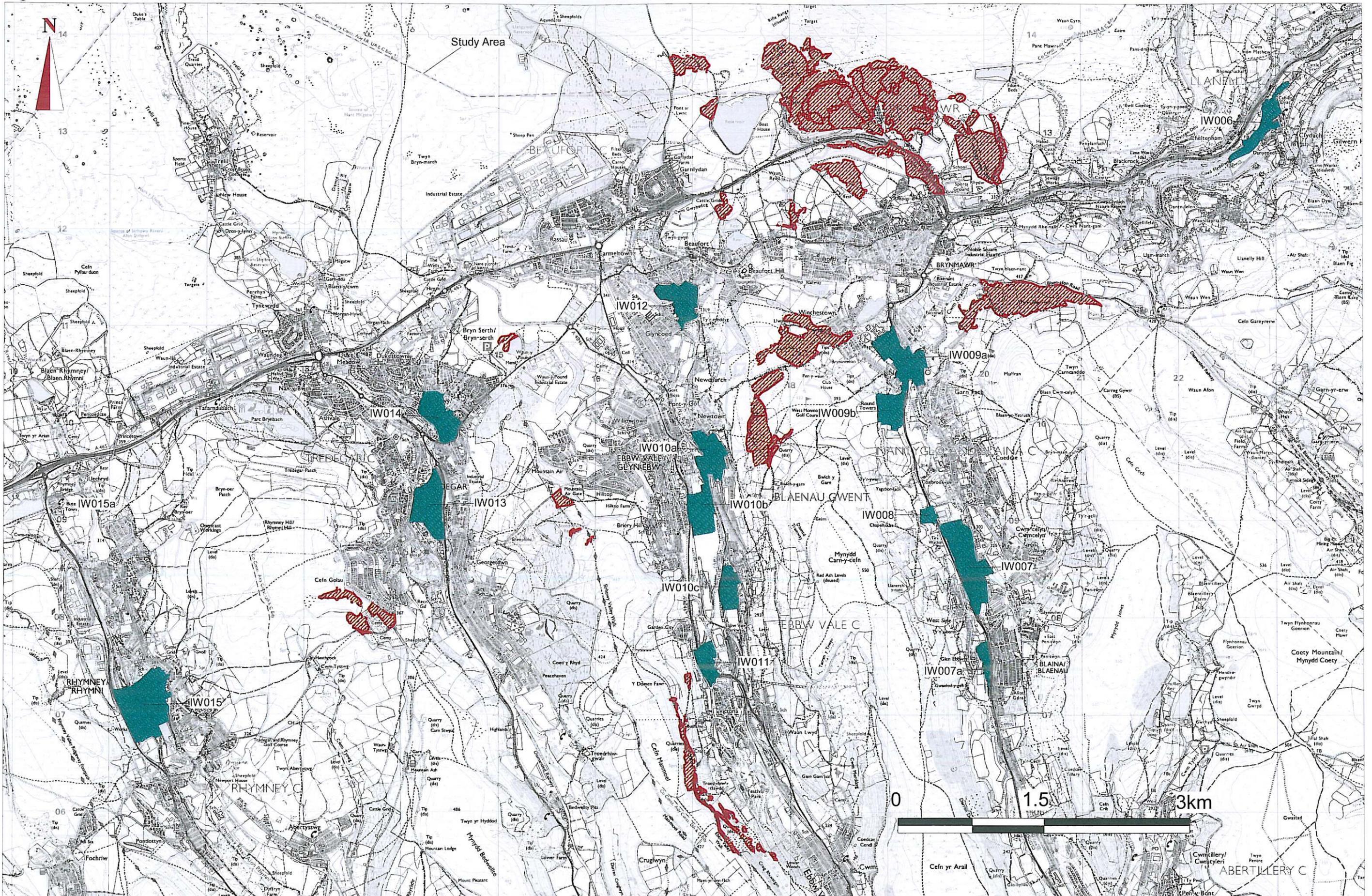
Plate 64. Coal level entrance EA071.11 (first shown on 3rd edition OS), view to west



Plate 65. Quarry faces within EA08.07, view to south south east

Figures

Figure 1a. Location of areas visited in relation to core ironwork areas



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Figure 1b. Location of areas visited (1st edition OS map background 1880)

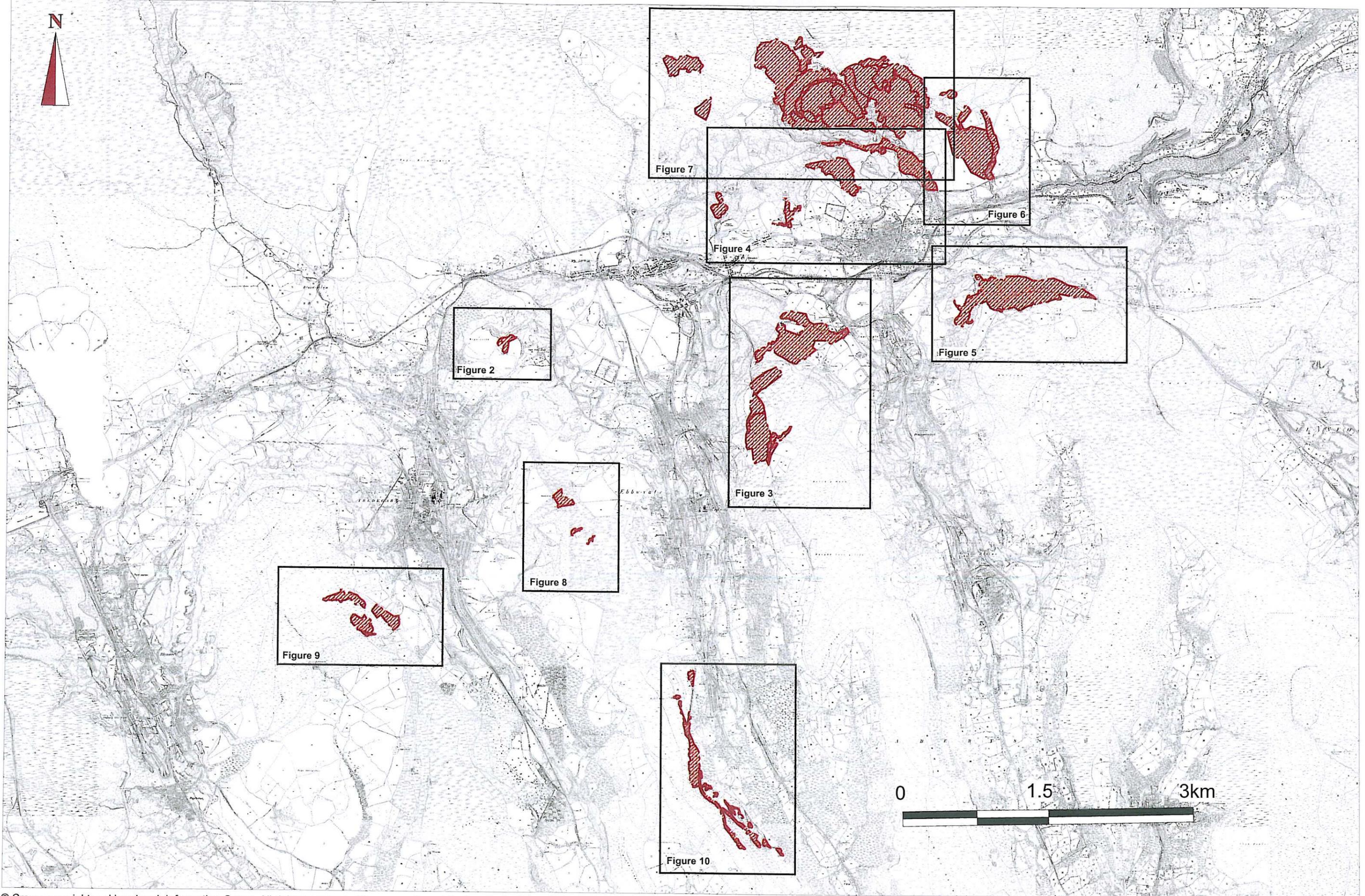
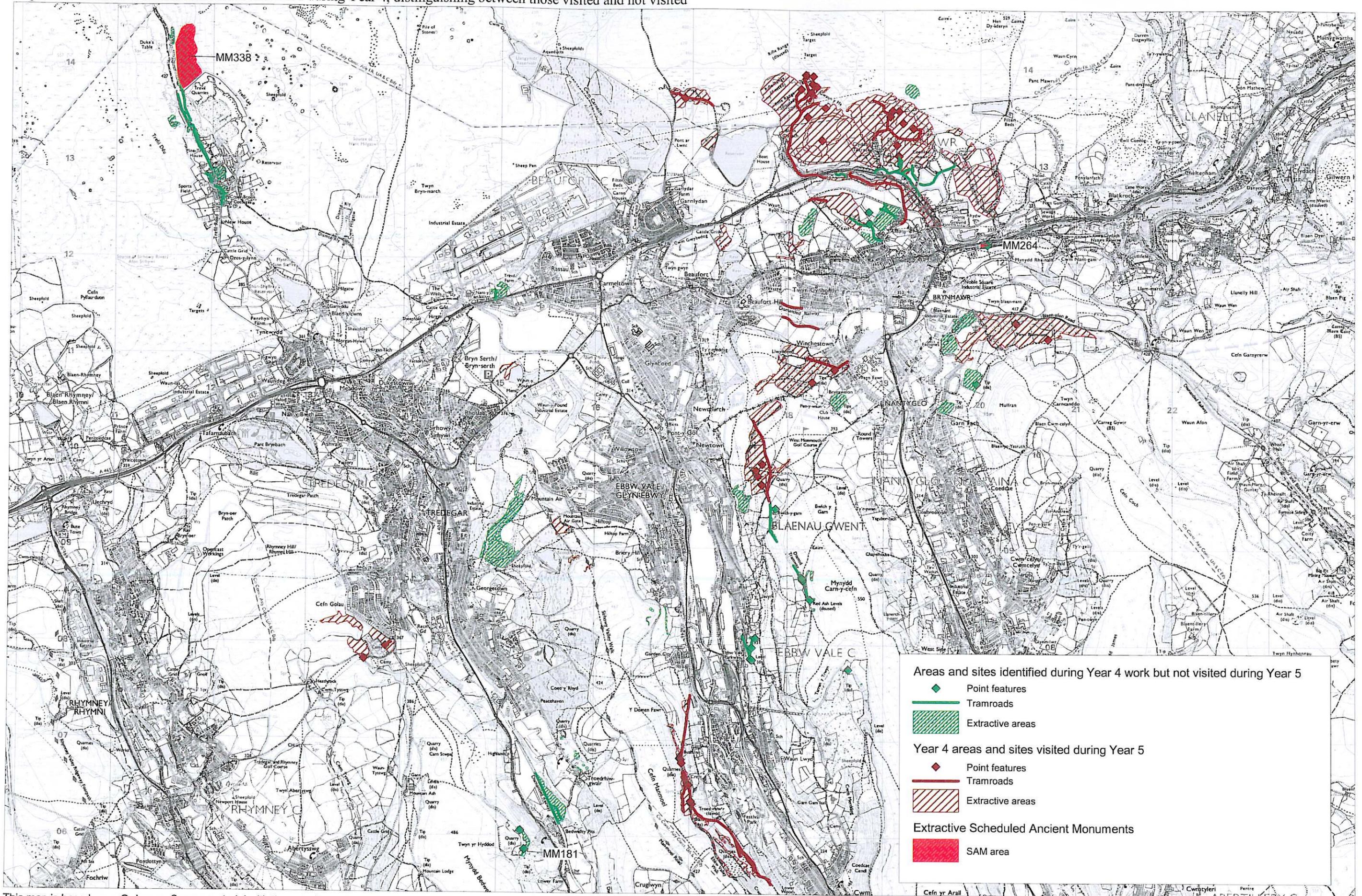


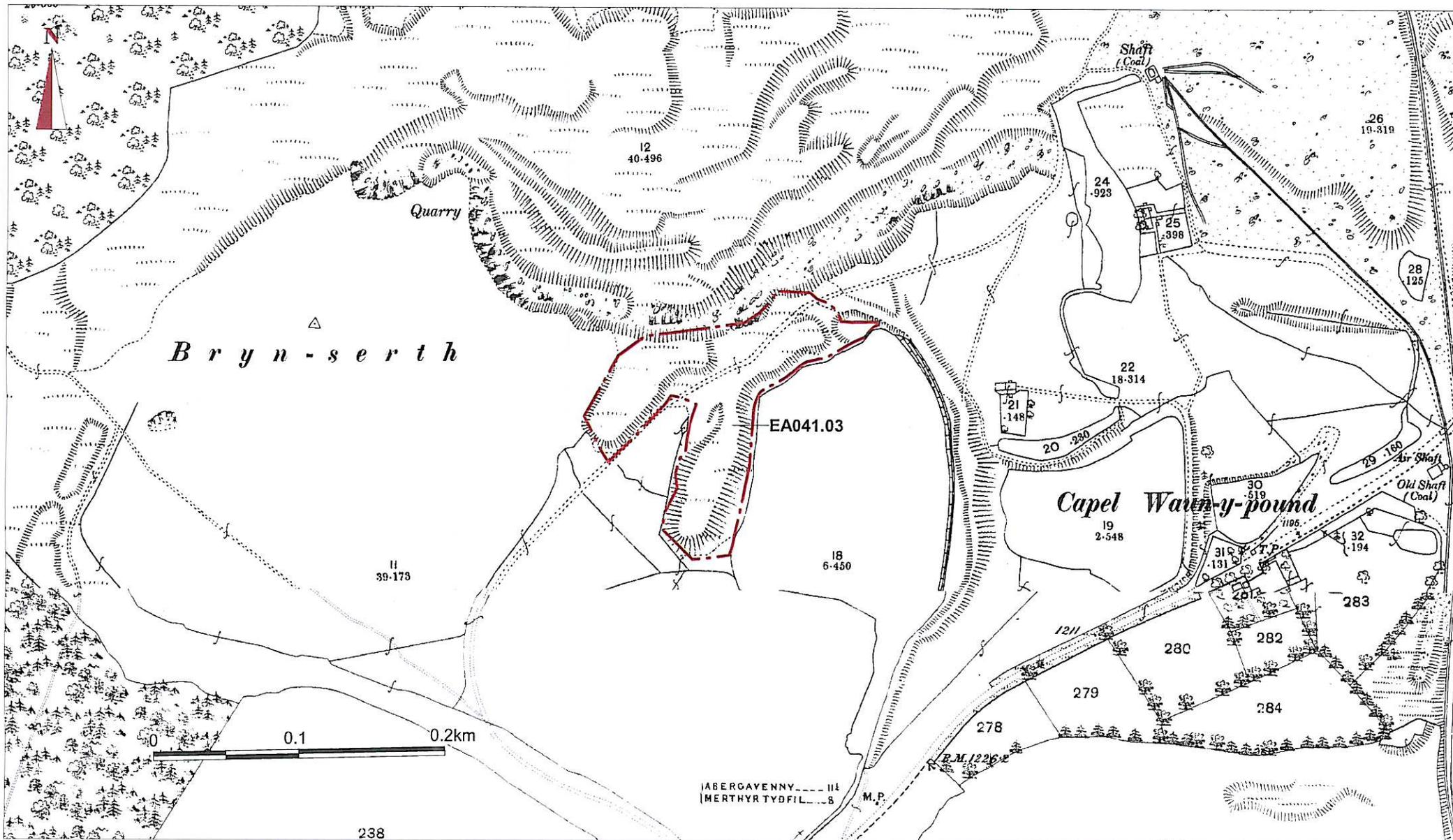
Figure 1c. Extractive features and areas identified during Year 4, distinguishing between those visited and not visited



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Figure 2. Bryn-serth:

Area EA041.03



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Figure 3. Winchestown and area above Ebbw Vale Iron Works:

Areas - EA042.01.04, EA042.01.05, EA042.01.06, EA042.01.09, EA042.01.10, EA042.02.02, EA042.02.07

Extractive tramroads - EA042.01.07, EA042.02.01, EA043.02.04

Point features - EA042.01.12, EA042.01.13, EA042.01.14, EA042.01.15, EA042.02.04, EA042.02.05

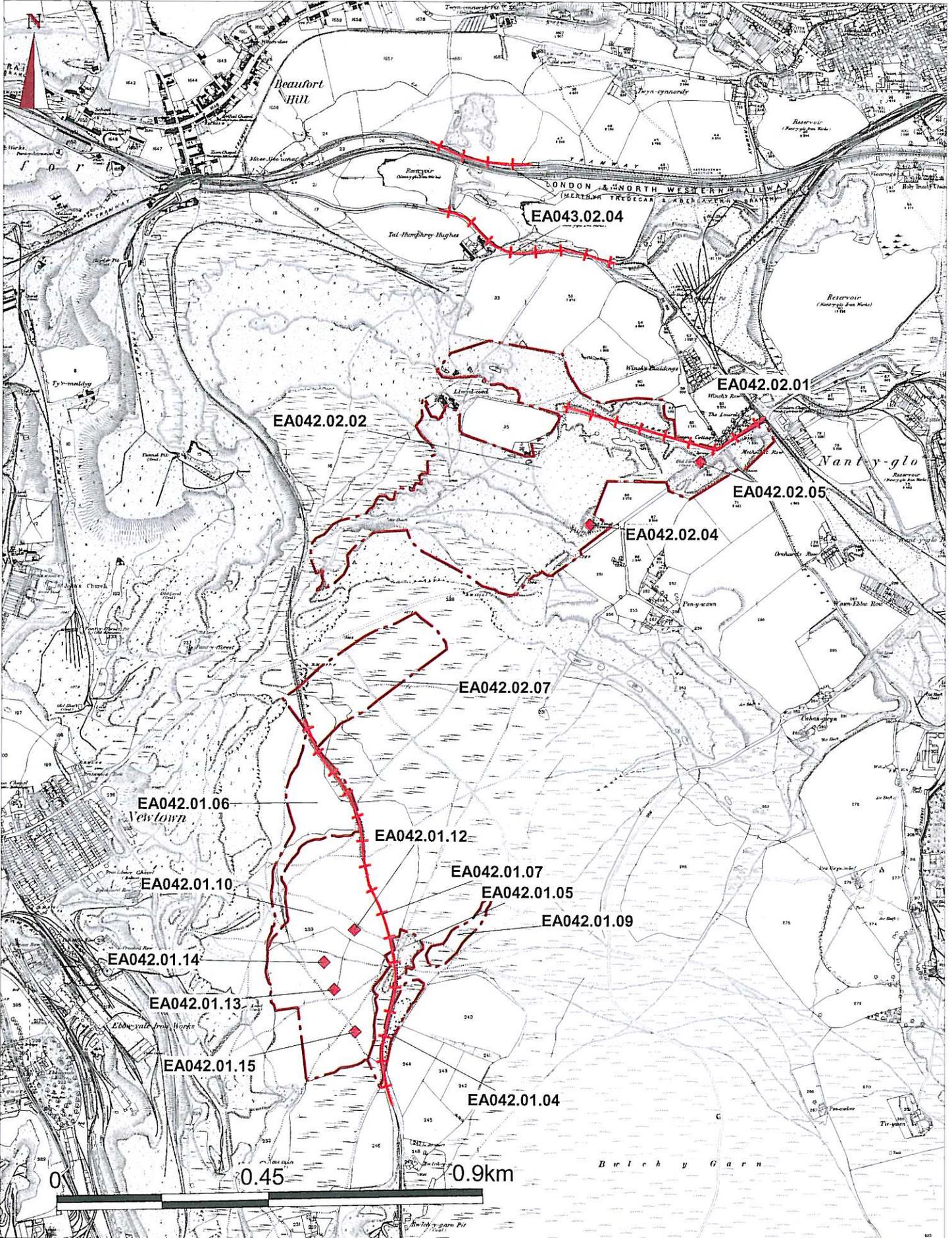


Figure 4. Brynmawr:

Areas - EA042.03.01, EA042.07.02, EA042.08.01, EA042.10

Extractive tramroads - EA042.07.03, EA042.08.06

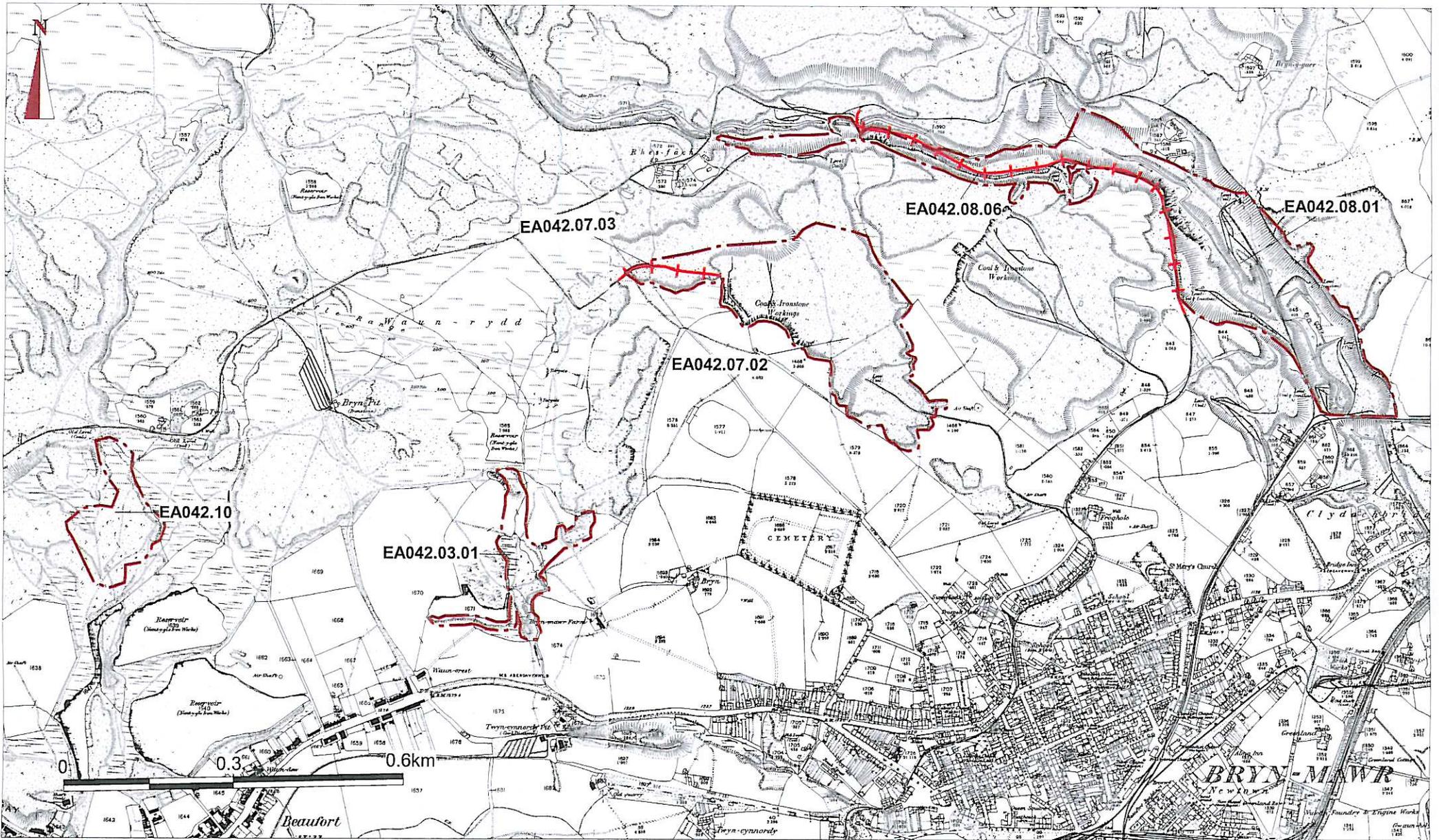
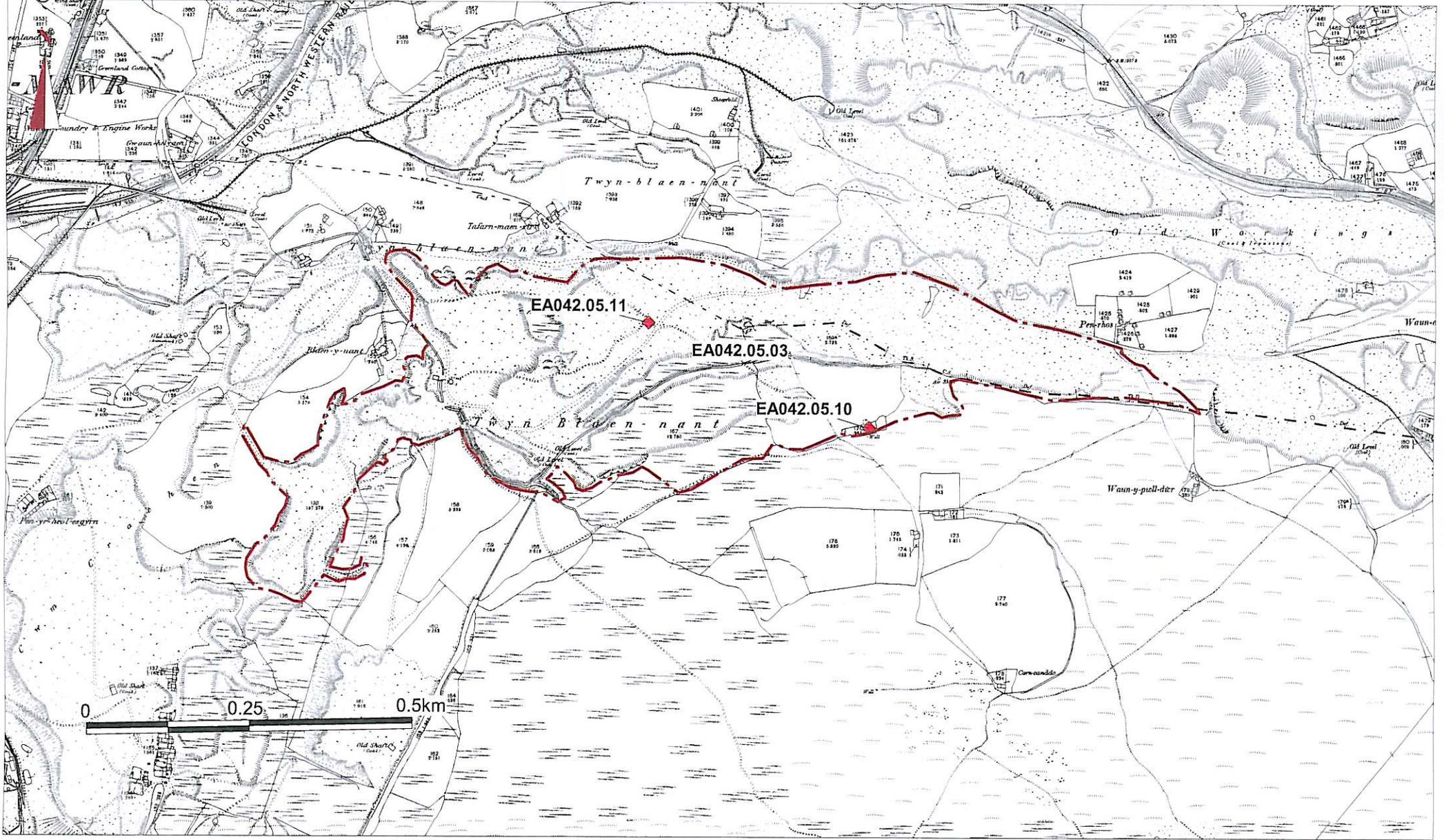


Figure 5. Twyn Blaen-nant:
Area - EA042.05.03
Point features - EA042.05.10, EA042.05.11



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Figure 6. Nant-melyn:
Areas - EA042.06.03, EA042.06.06

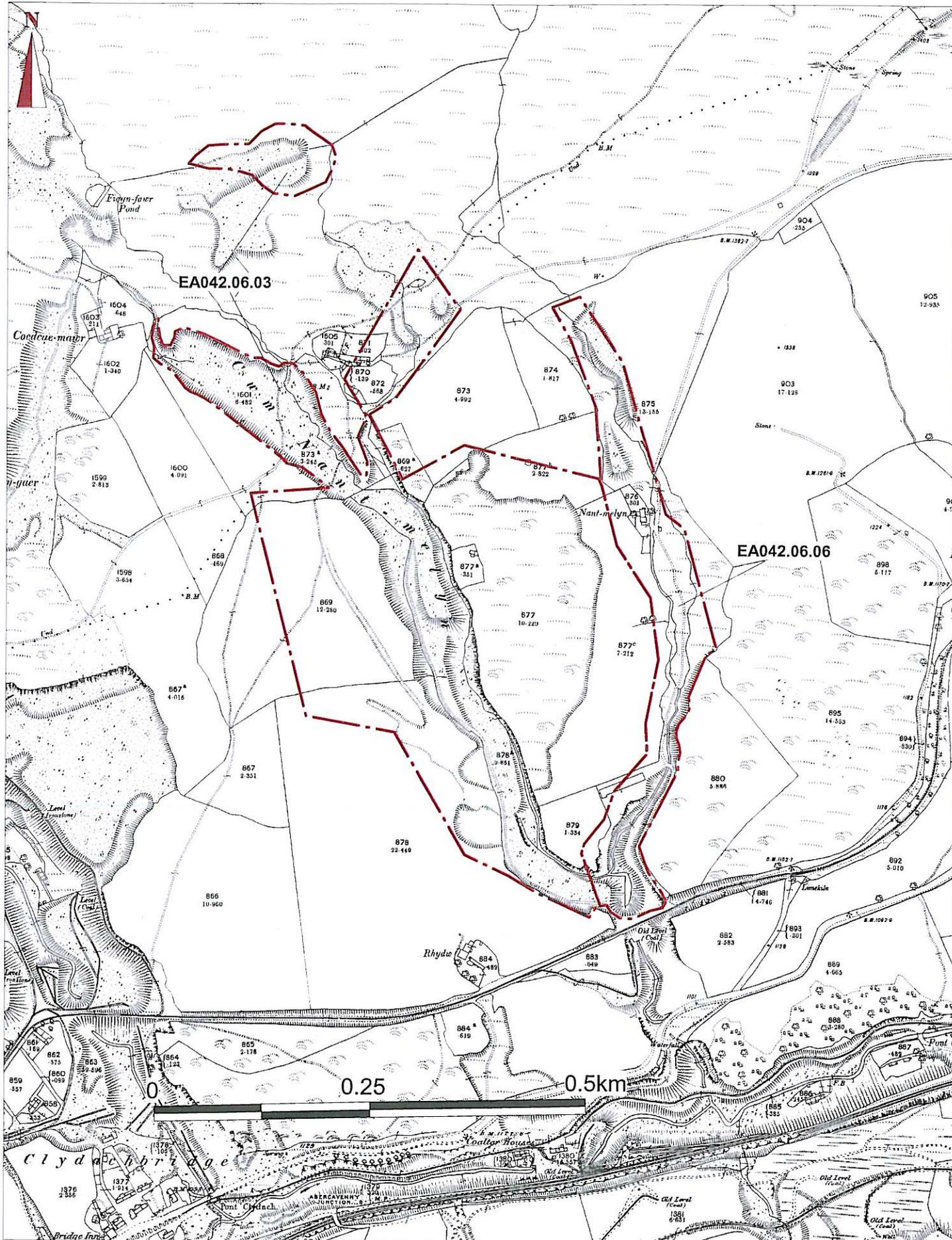


Figure 7. Brynmawr north:

Areas - EA042.09.02, EA042.09.03, EA042.09.04, EA042.09.05, EA042.09.06, EA042.09.07, EA042.09.08, EA042.09.09, EA042.09.10, EA042.09.11, EA042.09.12, EA042.09.13, EA042.09.15, EA042.09.32, EA042.09.34, EA042.09.36, EA042.09.38, EA042.09.40
Extractive tramroads - EA042.09.25, EA042.09.27, EA042.09.43, EA042.09.44
Point features - EA042.09.16, EA042.09.17, EA042.09.18, EA042.09.19, EA042.09.20, EA042.09.21, EA042.09.23, EA042.09.24, EA042.09.26, EA042.09.30, EA042.09.31, EA042.09.33, EA042.09.35, EA042.09.45, EA042.09.46, EA042.09.47

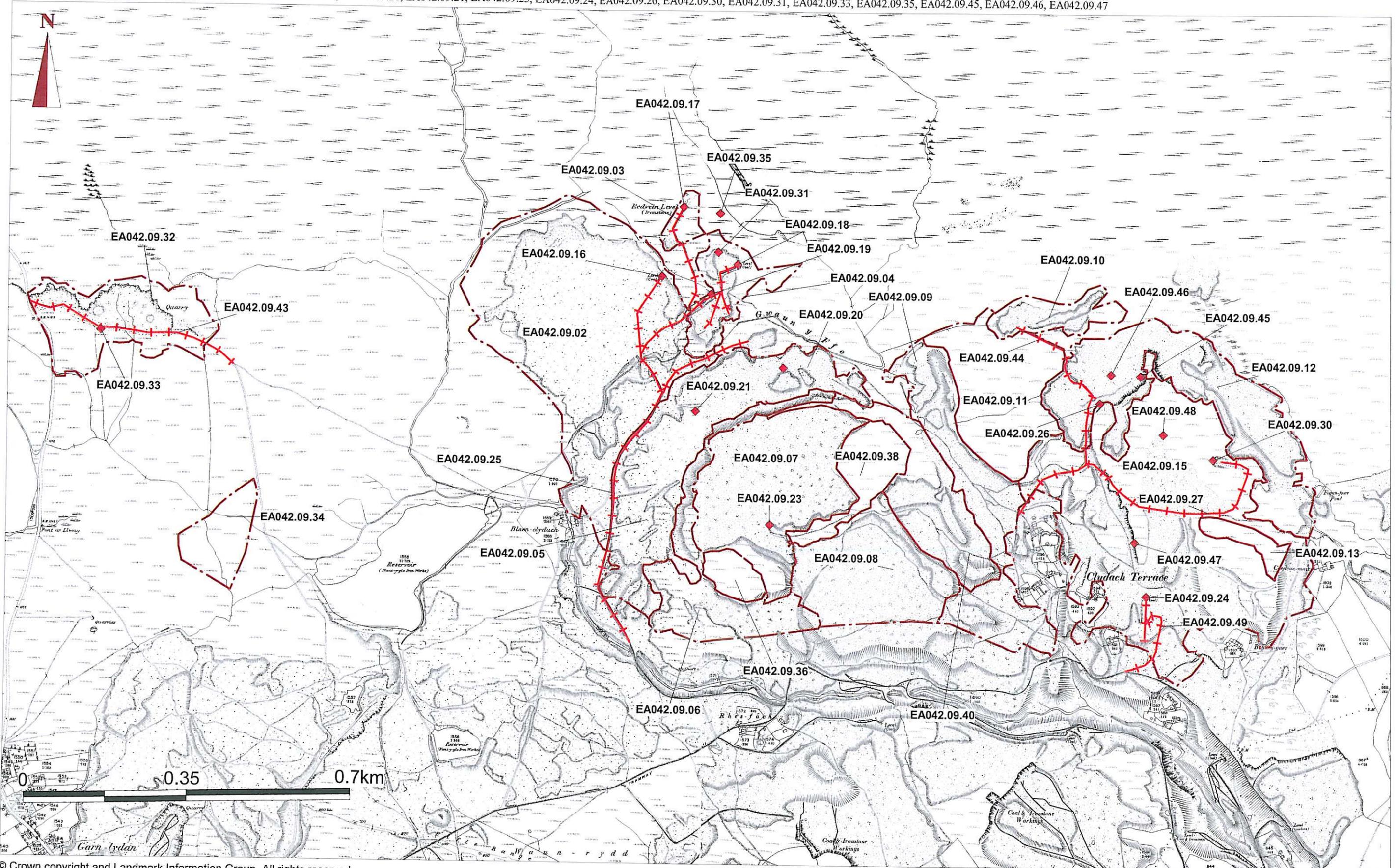


Figure 8. Mountain Air and Scotch Peter's Reservoir:
Areas - EA057.02, EA061.02, EA061.03

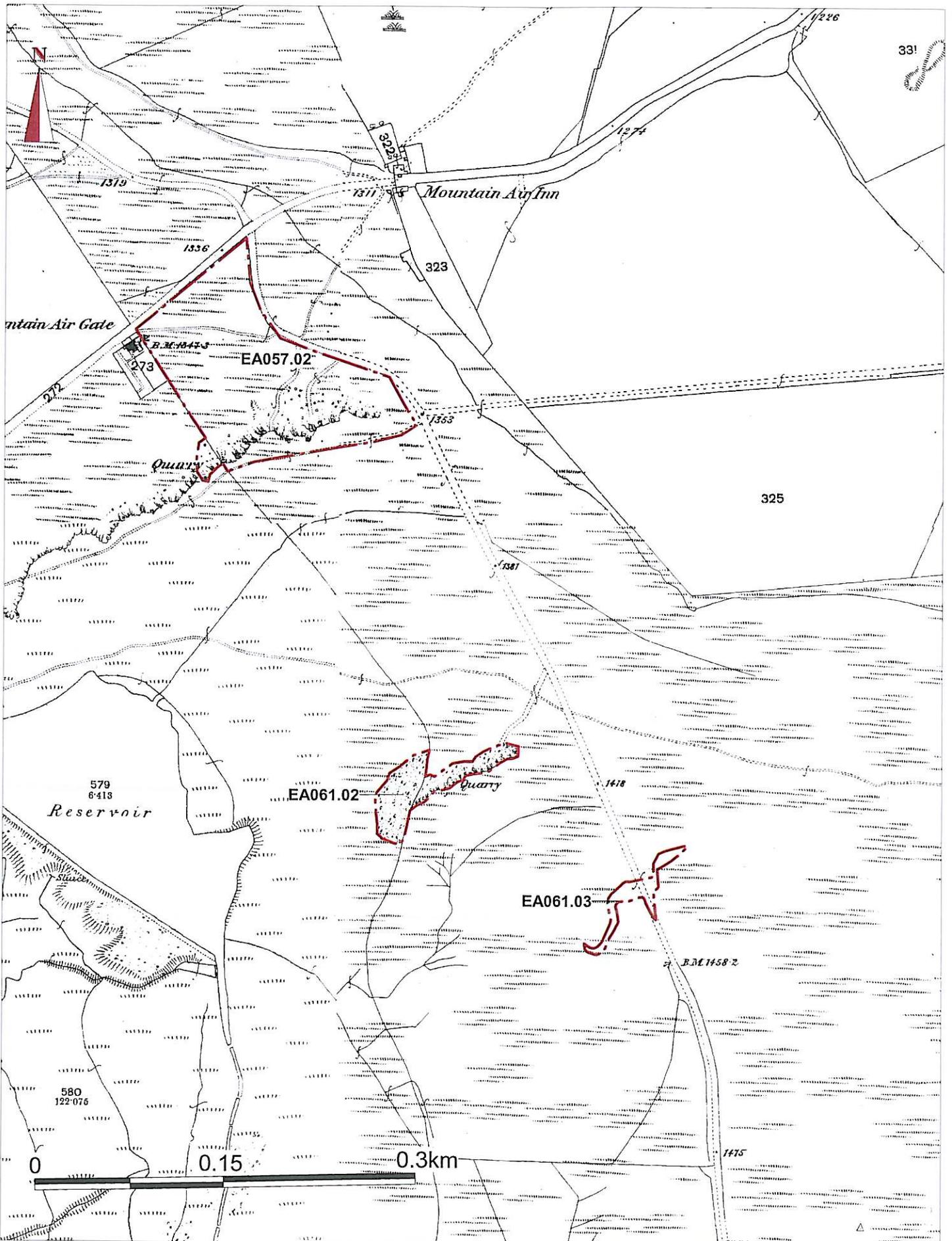
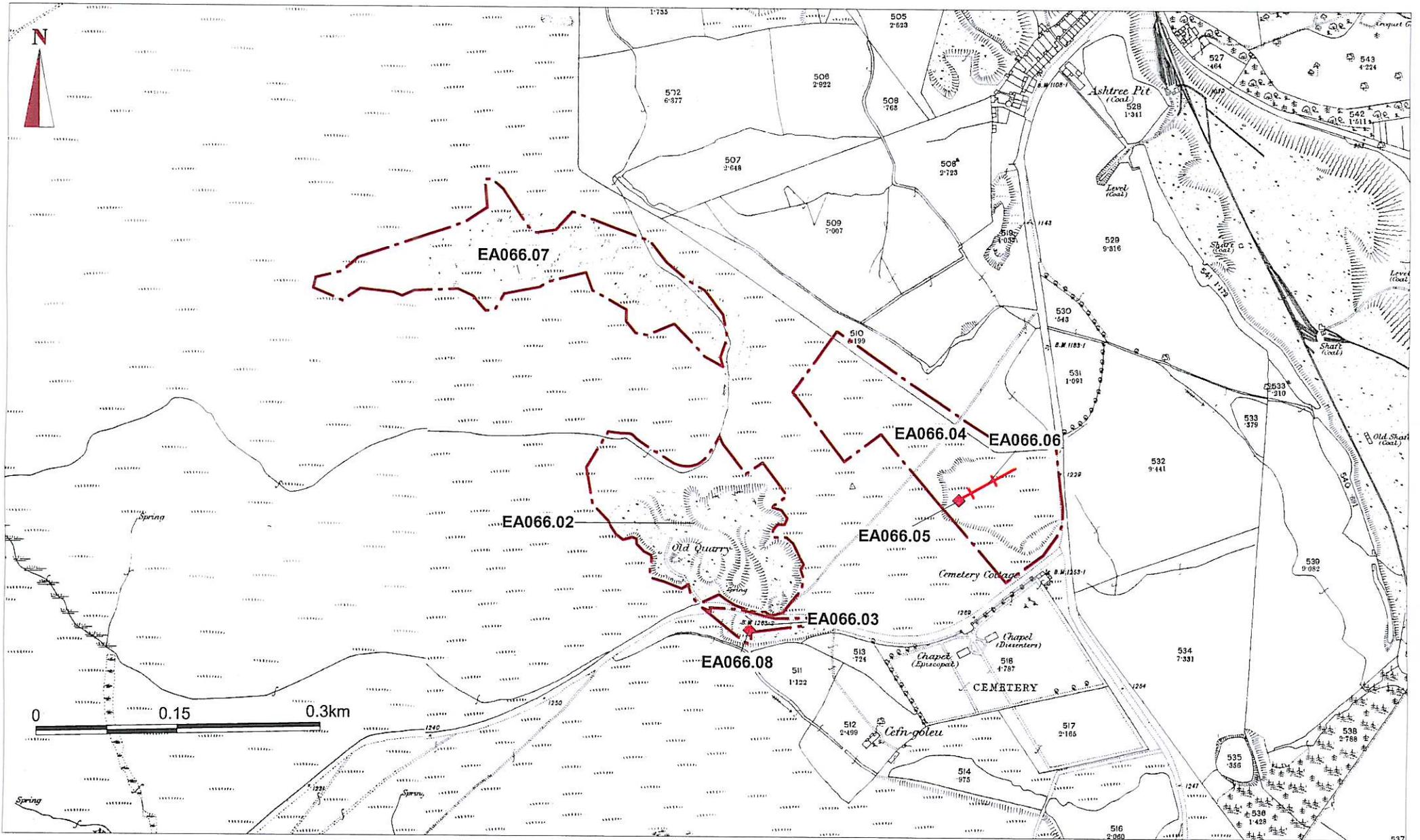


Figure 9. Cefn-goleu:

Areas - EA066.02, EA066.03, EA066.04, EA066.07

Extractive tramroads - EA066.06

Point features - EA066.05, EA066.08



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Figure 10. Domen-fawr and Troed-rhiw-clawdd:

Areas - EA071.03, EA085.07

Extractive tramroads - EA071.02

Point features - EA071.07, EA071.08, EA071.09, EA071.10, EA071.11, EA085.05

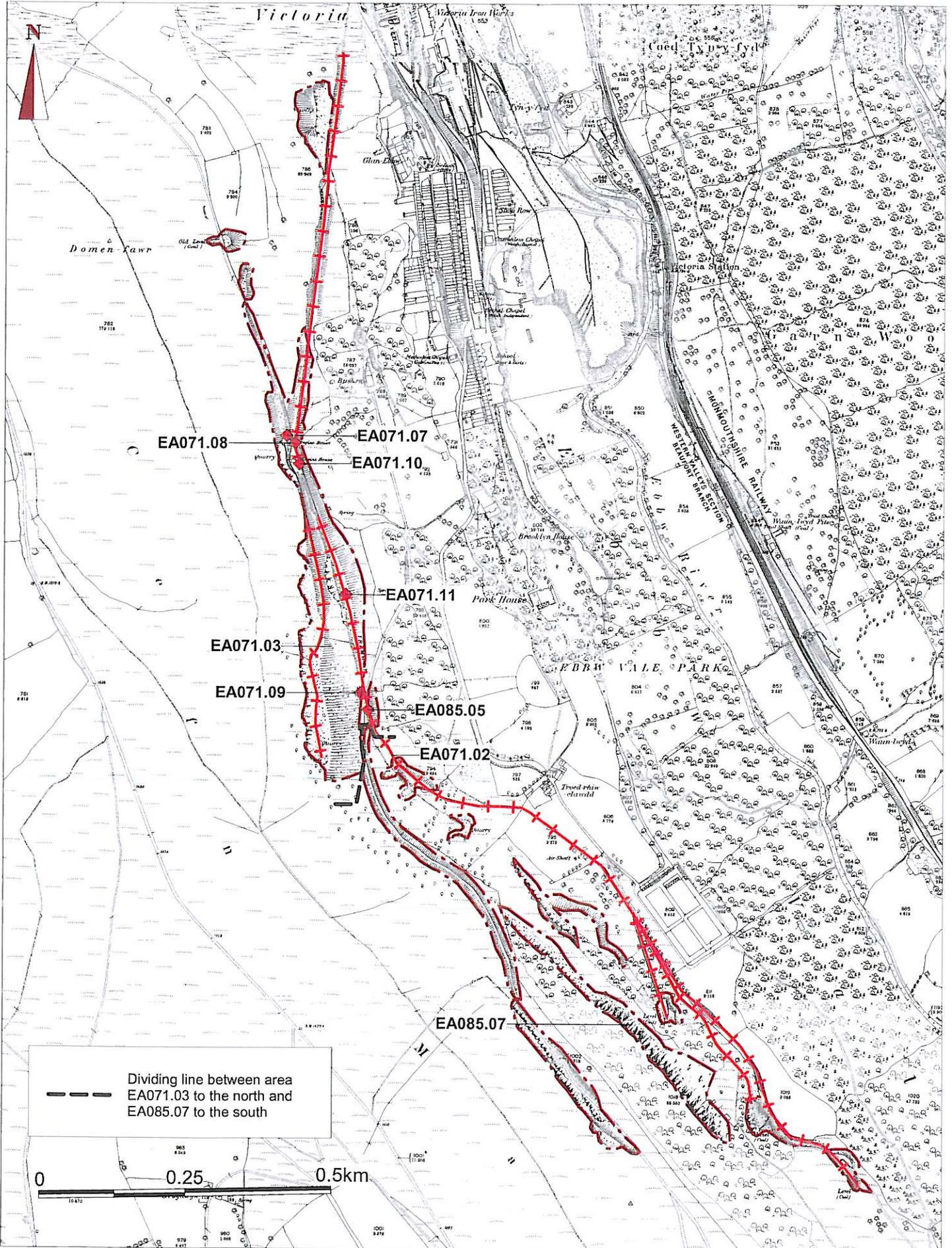
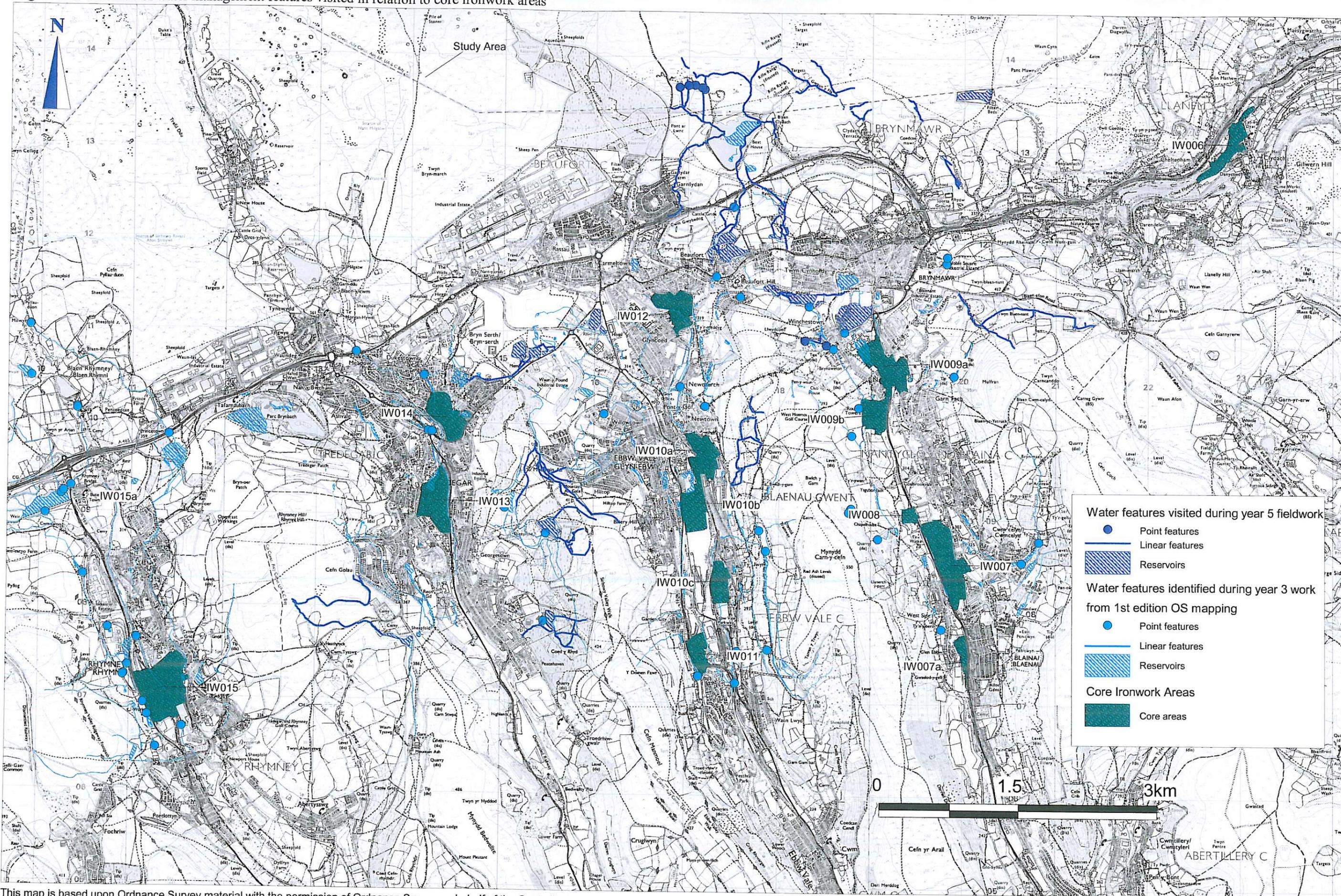


Figure 11a. Location of water management features visited in relation to core ironwork areas



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Figure 11b. Location of water management features visited (1st edition OS map background 1880)

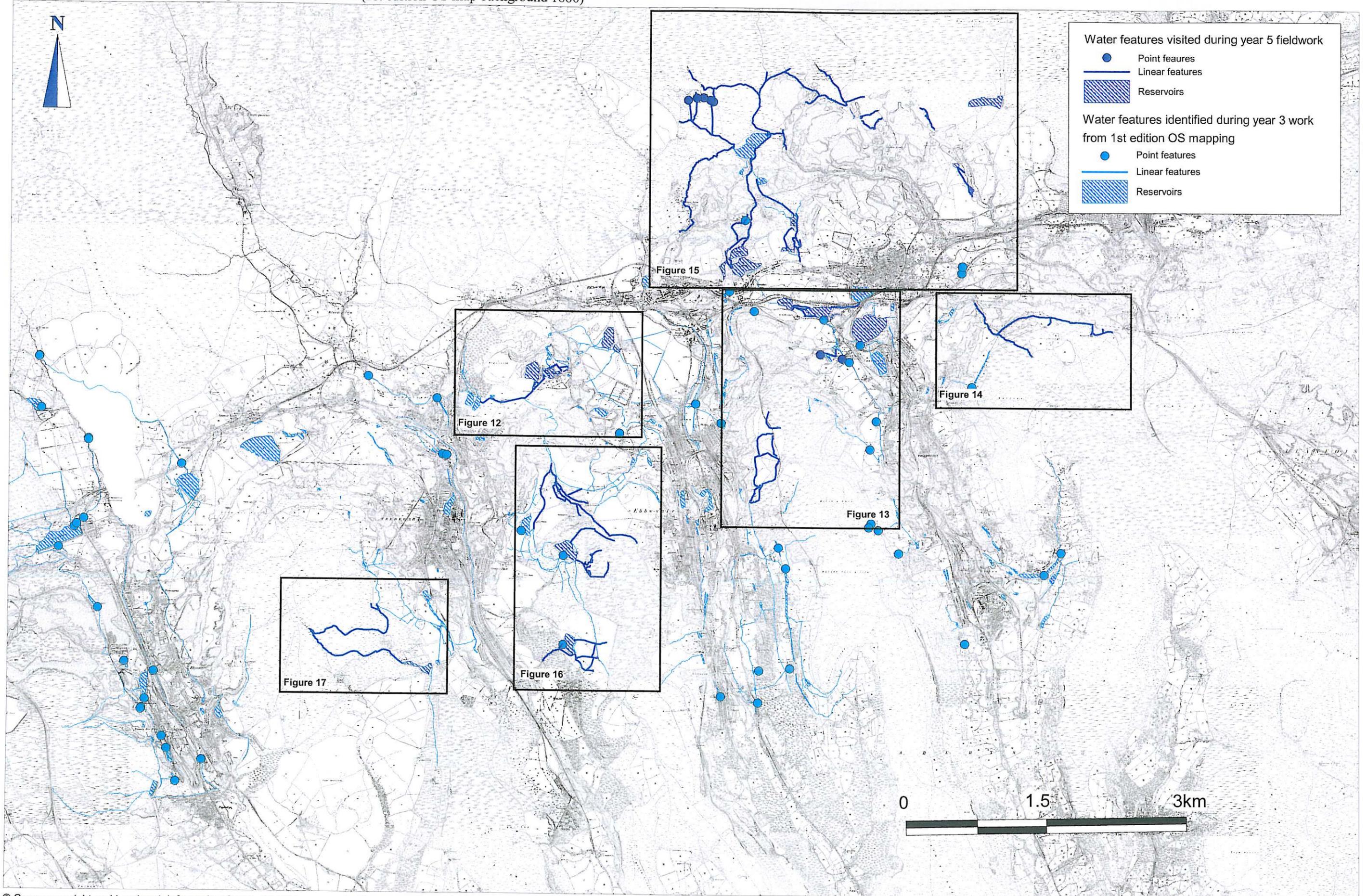
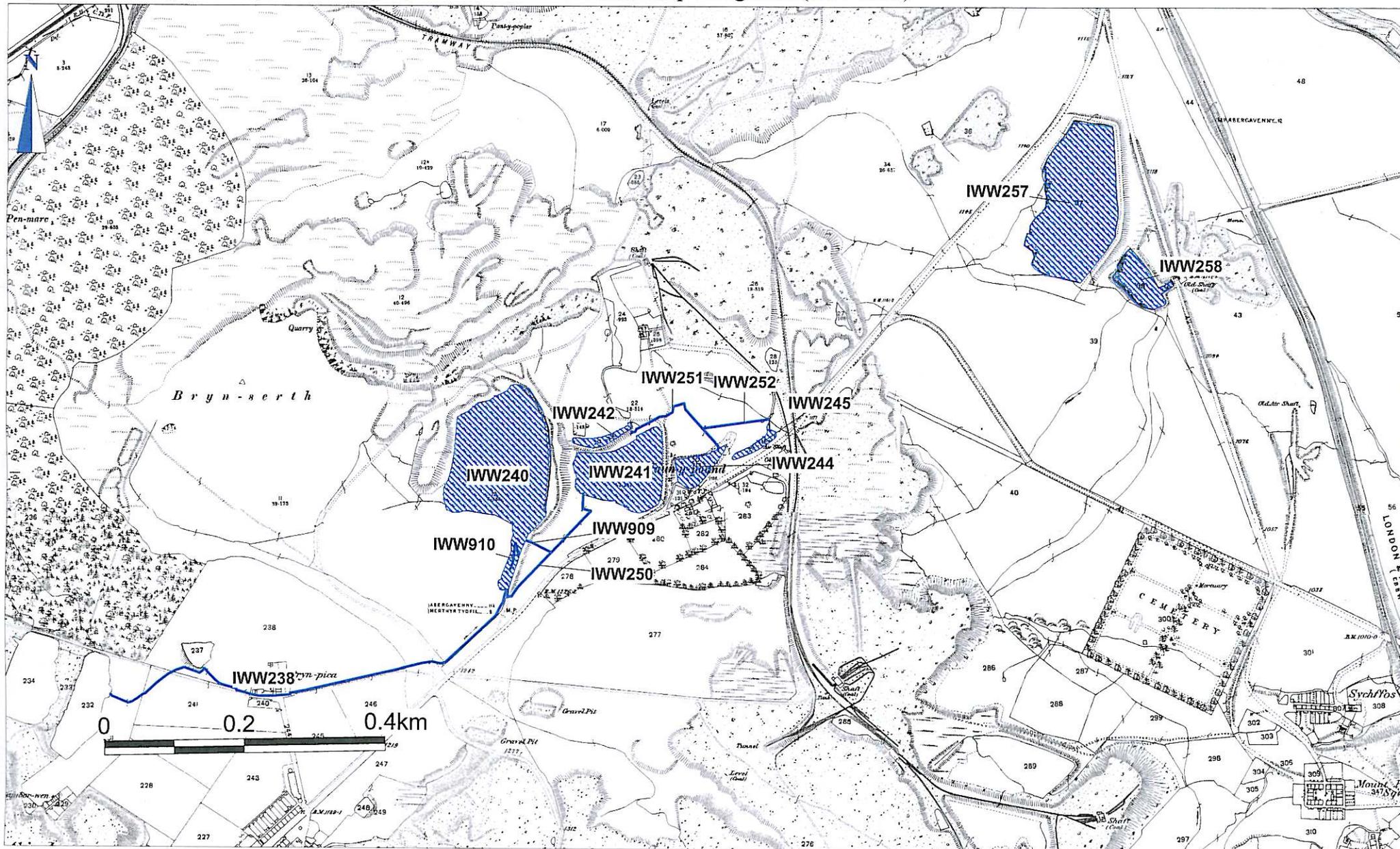


Figure 12. Waun-y-Pound system and Rhyd-y-blew Ponds on 1st edition map background (1879-1880)



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Figure 13. Tai-Humphrey-Hughes system, Winchestown and area above Ebbw Vale Iron Works

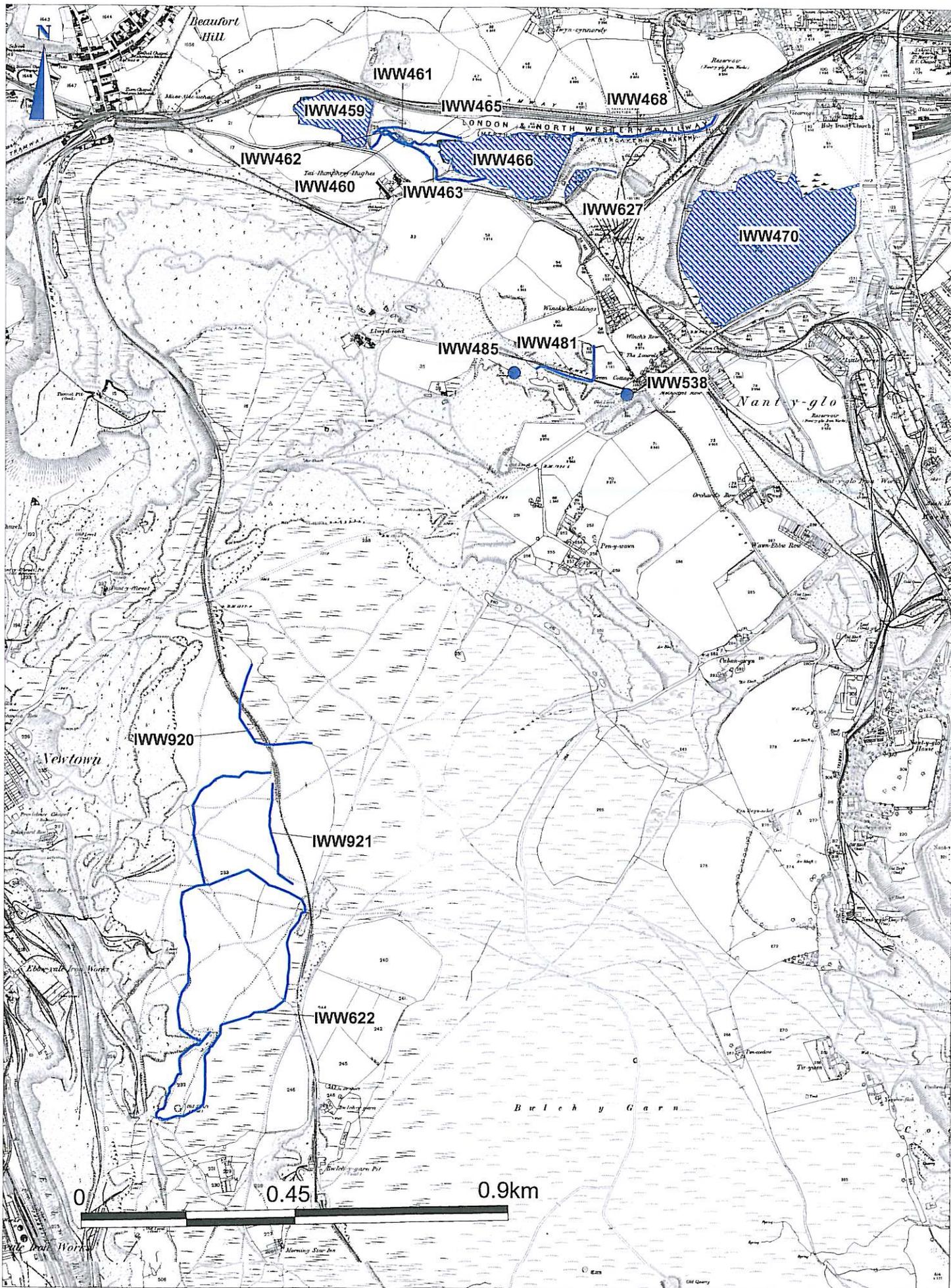
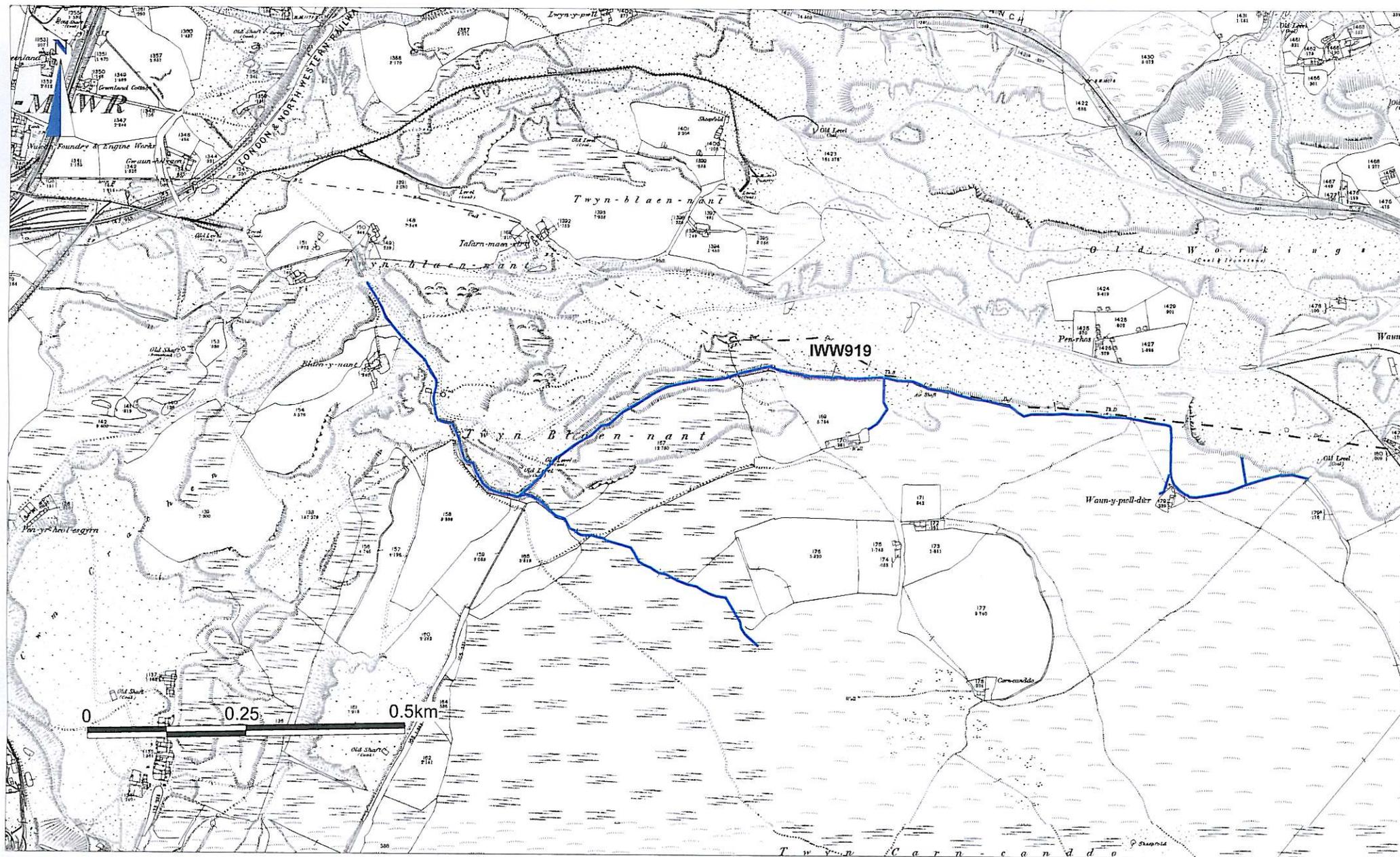
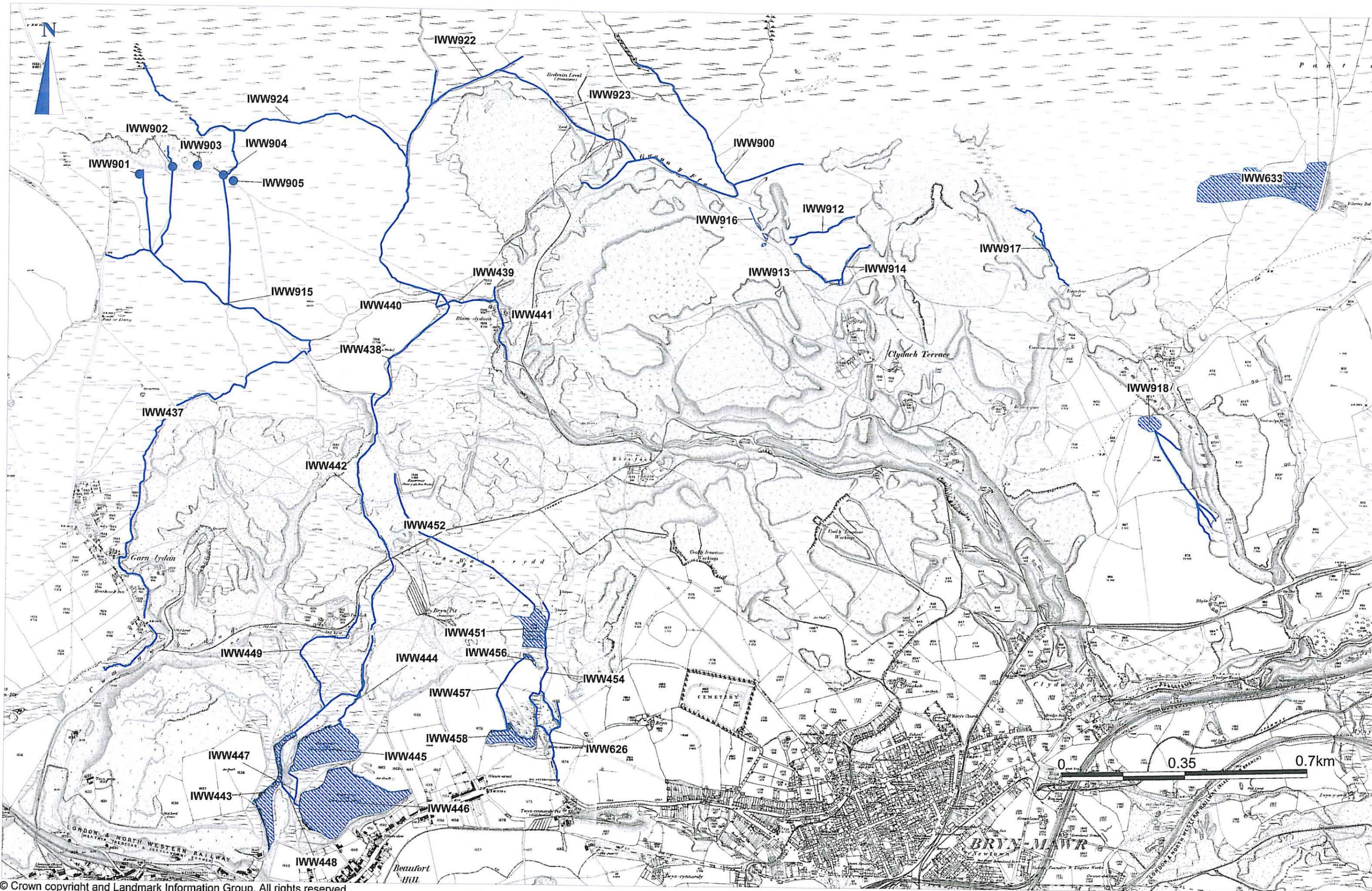


Figure 14. Twyn Blaen-nant, Waun-y-pwll-dwr scouring leat



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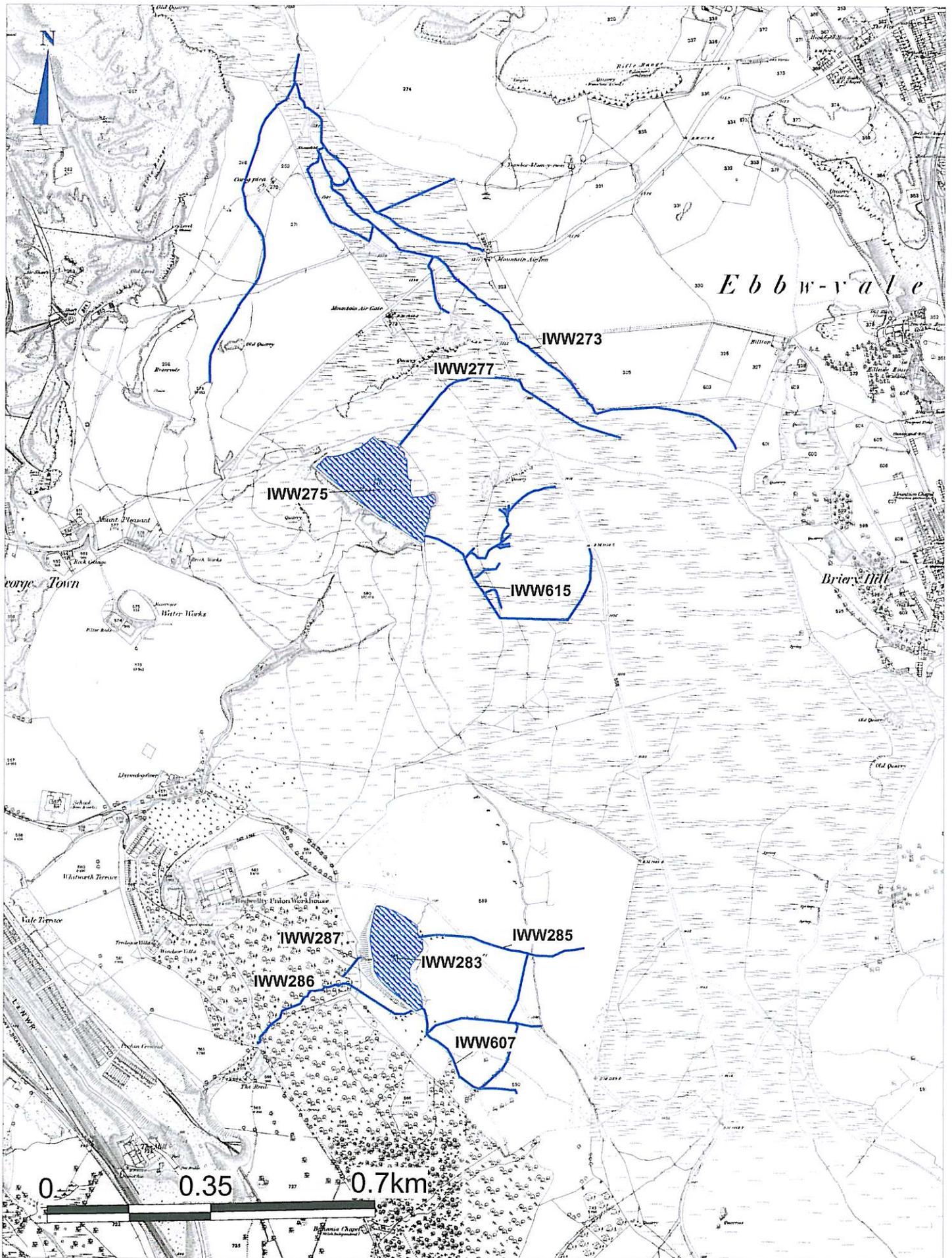
Figure 15. Brynmawr north



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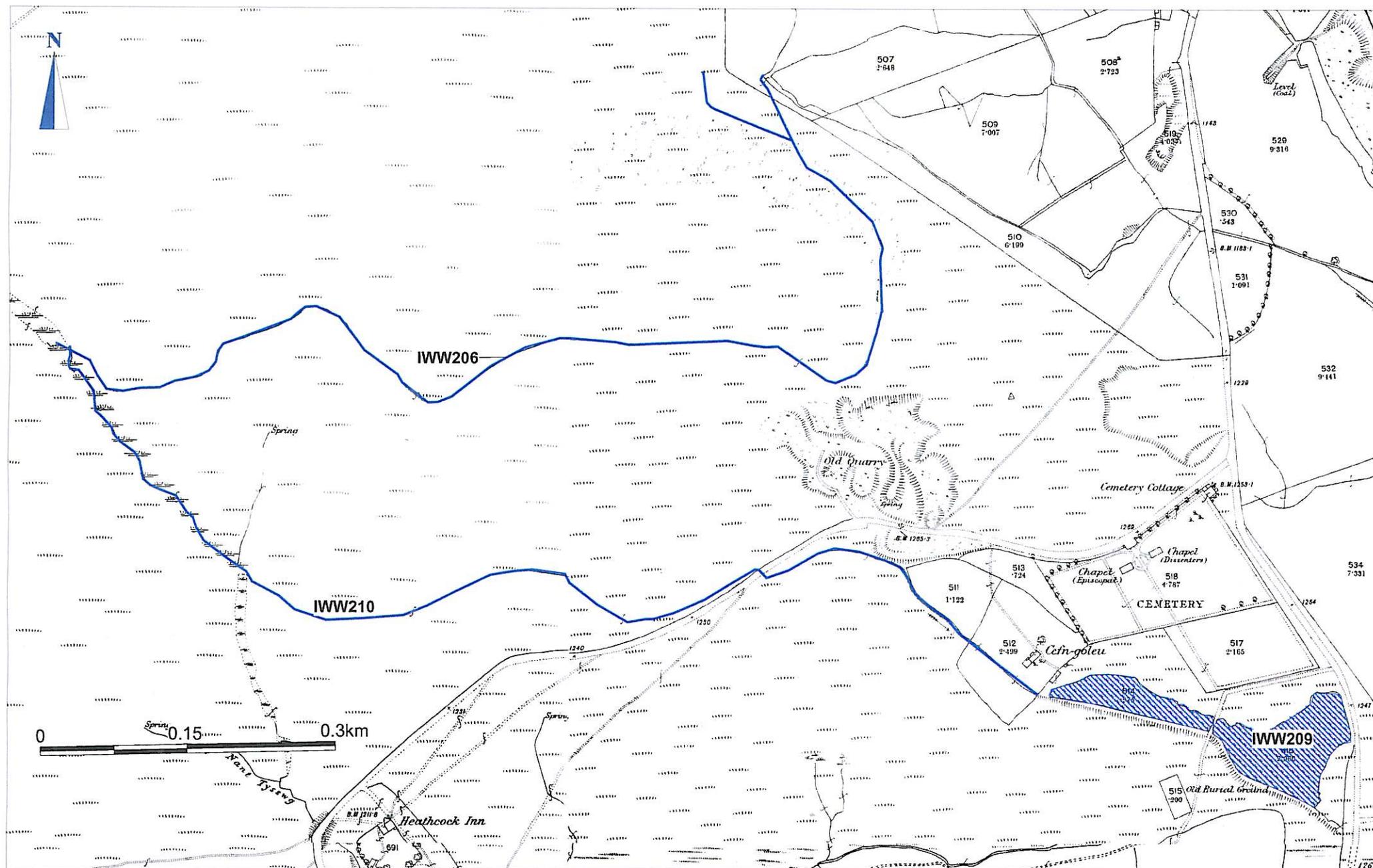
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Figure 16. Scotch Peter's Reservoir and Georgetown Reservoir



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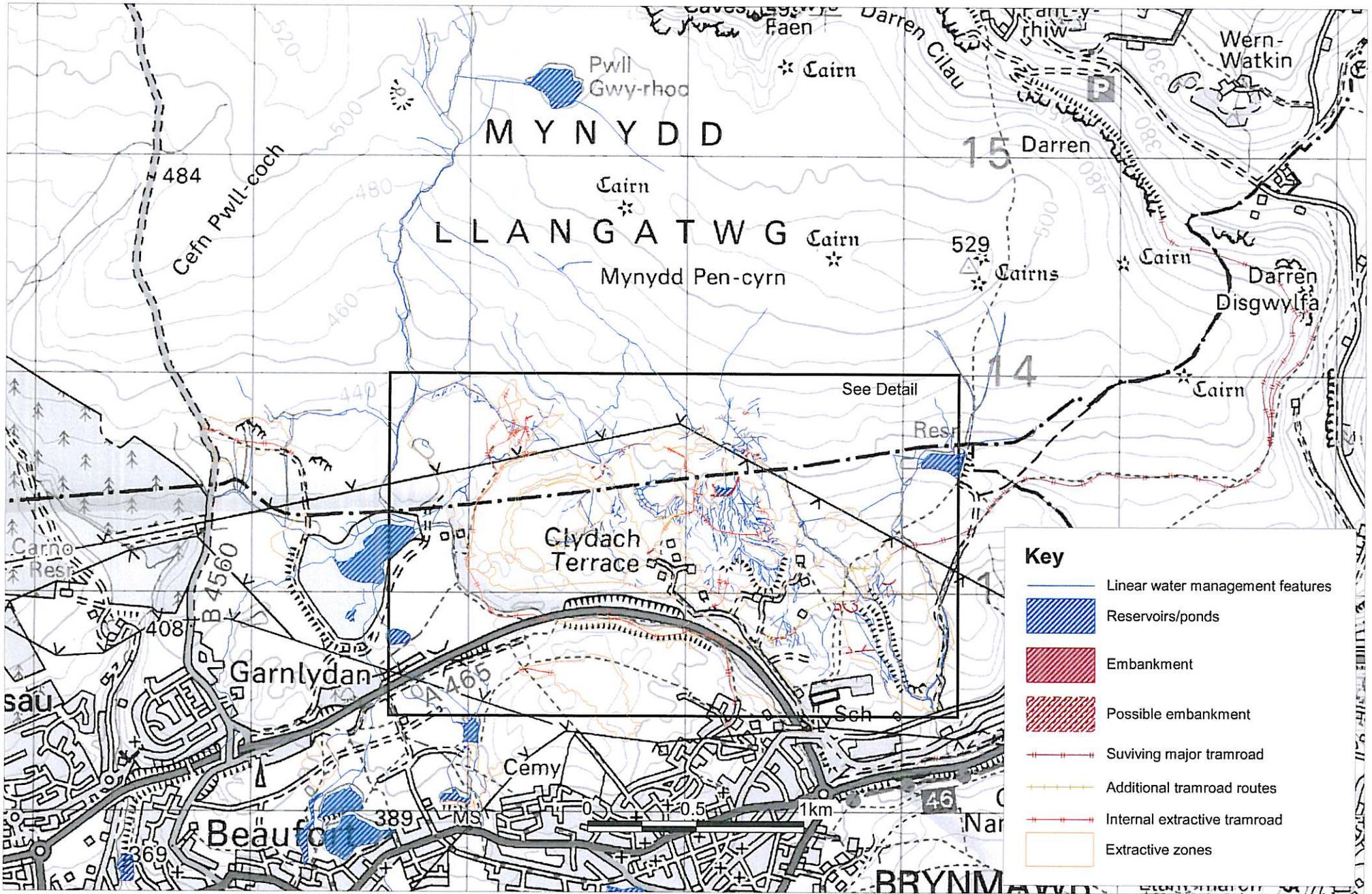
Figure 17. Cefn-goleu



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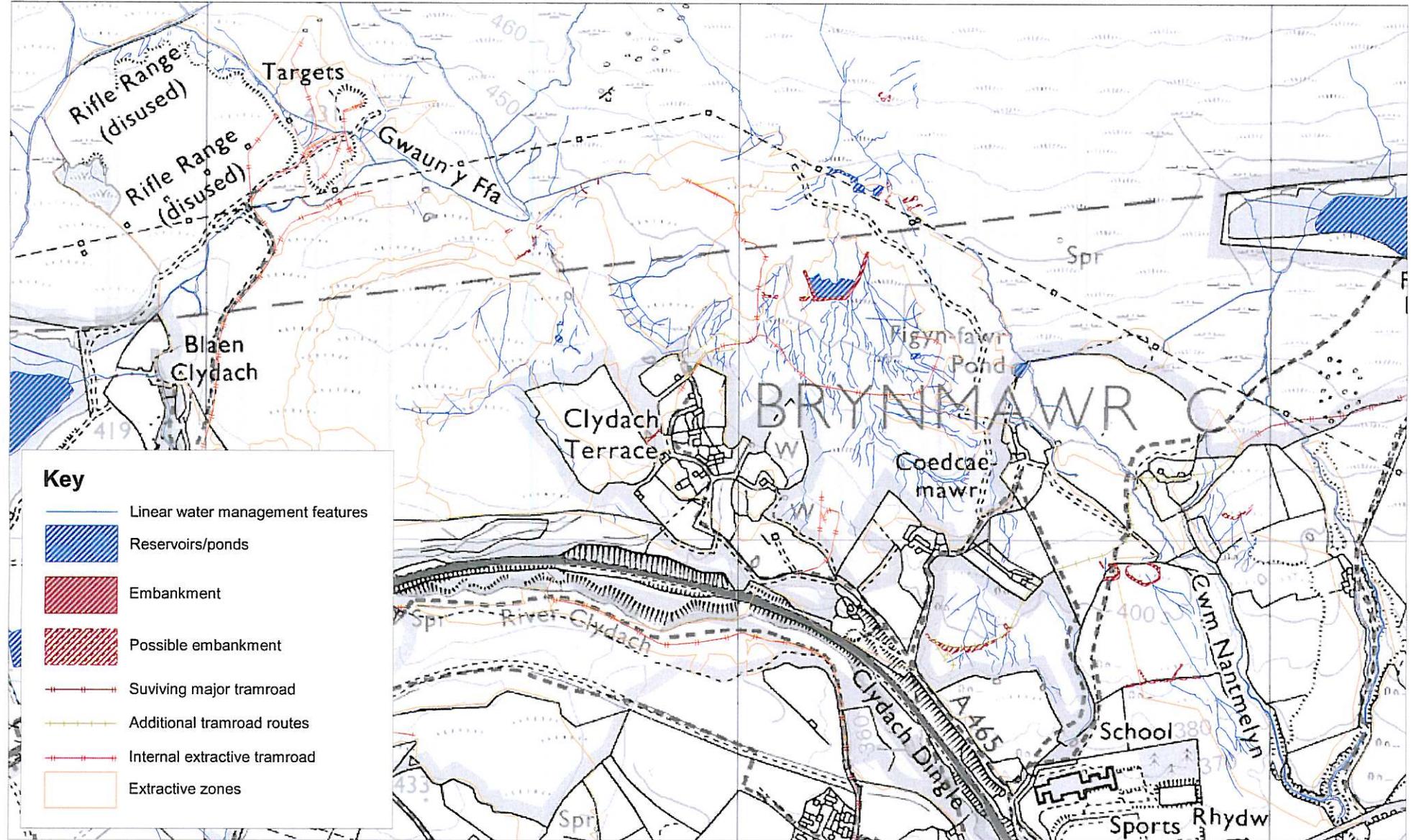
Figure 18a. Brynmawr north: interpretation



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Figure 18b. Brynmawr north: interpretation (detail)



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