

# **LEVEL FAWR, PONT RHYD Y GROES, CEREDIGION: HERITAGE IMPACT STATEMENT**



Prepared by The Trust for Welsh Archaeology  
(Dyfed Region)  
For: Coal Authority



DYFED ARCHAEOLOGY



ARCHAEOLEG DYFED

# THE TRUST FOR WELSH ARCHAEOLOGY (DYFED REGION)

REPORT NO. 2024-04  
PROJECT NO. 130290

January 2024

Ionawr 2024

## LEVEL FAWR, PONT RHYD Y GROES, CEREDIGION: HERITAGE IMPACT STATEMENT

By

**Philip Poucher MCIfA**



*The report has been prepared for the specific use of the client. The Trust for Welsh Archaeology can accept no responsibility for its use by any other person or persons who may read it or rely on the information it contains.*

Ymddiriedolaeth Archaeolegol Cymru (Dyfed)  
Corner House, 6 Stryd Caerfyrddin, Llandeilo, Sir  
Gaerfyrddin SA19 6AE  
Ffon: Ymholiadau Cyffredinol 01558 823121  
Adran Rheoli Treftadaeth 01558 823131  
Ebost: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)

*The Trust for Welsh Archaeology (Dyfed)*  
*Corner House, 6 Carmarthen Street, Llandeilo,*  
*Carmarthenshire SA19 6AE*  
*Tel: General Enquiries 01558 823121*  
*Heritage Management Section 01558 823131*  
*Email: [info@dyfedarchaeology.org.uk](mailto:info@dyfedarchaeology.org.uk)*

*Cwmni cyfyngedig (1198990) ynghyd ag elusen gofrestredig (504616) yw'r Ymddiriedolaeth.  
The Trust is both a Limited Company (No. 1198990) and a Registered Charity (No. 504616)*

*CADEIRYDD CHAIR: Dr S Rees CBE FSA. CYFARWYDDWR DIRECTOR: K Murphy BA MCIfA*

**LEVEL FAWR, PONT RHYD Y GROES, CEREDIGION**

**HERITAGE IMPACT STATEMENT**

<b>Client</b>	Coal Authority
<b>Event Record No</b>	130290
<b>Report No</b>	2024-04
<b>Project Code</b>	FS23-047
<b>Report Prepared By</b>	Philip Poucher
<b>Site-visit Undertaken By</b>	Philip Poucher
<b>Illustrated By</b>	Philip Poucher
<b>Report Approved By</b>	Fran Murphy

---

Rev Number	Description	Undertaken	Approved	Date
V1	Draft	PP		09/01/2024

**LEVEL FAWR, PONT RHYD Y GROES, CEREDIGION:  
HERITAGE IMPACT STATEMENT**

<b>EXECUTIVE SUMMARY</b>	1
<b>1 INTRODUCTION</b>	2
<b>1.1 Project Background and Justification</b>	2
<b>1.2 Policies and Guidance</b>	2
<b>1.3 Methodology</b>	4
<b>2 HISTORIC ASSET AND LOCATION</b>	5
<b>3 HISTORIC BACKGROUND</b>	10
<b>4 ASSESSMENT OF SIGNIFICANCE</b>	20
<b>4.1 Values</b>	20
<b>4.2 Setting</b>	22
<b>5 DEVELOPMENT PROPOSALS AND IMPACTS</b>	23
<b>5.1 Development Details</b>	23
<b>5.2 Development Impacts</b>	27
<b>5.3 Mitigation</b>	27
<b>6 CONCLUSION</b>	29
<b>7 SOURCES</b>	31
<b>FIGURES</b>	
<b>Figure 1</b> Location map	8
<b>Figure 2</b> Detailed location map	9
<b>Figure 3</b> Section of the Level Fawr Adit from Bick 1974	12
<b>Figure 4</b> Plan of the Level Fawr Adit from Jones 1922	12
<b>Figure 5</b> Extract from the tithe map of 1849	14
<b>Figure 6</b> Extract from the 1888 Ordnance Survey map	14
<b>Figure 7</b> Location of monitoring structure	24
<b>Figure 8</b> Schematic plan of flow monitoring structure	24
<b>Figure 9</b> Profile of flow monitoring structure	25
<b>Figure 10</b> Visual example of flume	25
<b>Figure 11</b> Visual location of development proposals	26
<b>Figure 12</b> Visual example of data logger and sensor	26
<b>TABLES</b>	
<b>Table 1</b> Summary of value criteria	20
<b>Table 2</b> Summary of asset values	29
<b>Table 3</b> Summary of impacts	30

**PHOTOS**

**Photos 1 - 10**

Photos of Level Fawr

15

## **LEVEL FAWR & GLOG FACH, PONT RHYD Y GROES, CEREDIGION HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT**

### **EXECUTIVE SUMMARY**

*The Trust for Welsh Archaeology – Dyfed Region were commissioned by the Coal Authority on behalf of the joint Metal (Non-Coal) Mine Programme between Natural Resources Wales (NRW) and the CA to produce a Heritage Impact Statement for proposed works that may affect the site and setting of the Level Fawr adit in Pont-rhyd-y-groes, Ceredigion (grid ref. SN 7393 7221), a Grade II listed building (ref.10694).*

*The significance of the asset was assessed on the four values laid out in Conservation Principles (Cadw 2011), along with its setting as laid out in Cadw's Setting of Historic Assets in Wales (Cadw 2017). The evidential and historical value was high given the condition of the monument, potential for surrounding archaeology and historic links to the significant local metal mining industry. The aesthetic and communal value was medium to high given the appearance, understanding, surroundings and access to the asset. The setting included the grounds of Count House, itself Grade II listed, and associated historic and archaeological features within those grounds, along with mining features spread throughout the village (including two further listed buildings) and surrounding countryside.*

*The proposed development of a flow monitoring structure was considered to have a potential slight detrimental impact on the evidential and aesthetic values and setting of the asset. Mitigatory measures were suggested to ensure the impact could remain neutral.*

### **CRYNODEB GWEITHREDOL**

*Comisiynwyd Ymddiriedolaeth Archaeoleg Cymru – Rhanbarth Dyfed gan yr Awdurdod Glo ar ran Rhaglen Mwyngloddiau Metel (Heb Glo) ar y cyd rhwng Cyfoeth Naturiol Cymru (CNC) a'r Awdurdod Cymwys i lunio Datganiad o'r Effaith ar Dreftadaeth ar gyfer gwaith arfaethedig a allai effeithio ar y safle a gosodiad ceuffordd Lefel Fawr ym Pont-rhyd-y-groes, Ceredigion (cyf. grid SN 7393 7221), adeilad rhestredig Gradd II (cyf.10694).*

*Aseswyd arwyddocâd yr ased ar y pedwar gwerth a nodir yn Egwyddorion Cadwraeth (Cadw 2011), ynghyd â'i leoliad fel y'i nodir yn Gosod Asedau Hanesyddol Cadw yng Nghymru (Cadw 2017). Roedd y gwerth tystiolaethol a hanesyddol yn uchel o ystyried cyflwr yr heneb, y potensial ar gyfer archeoleg o'i chwmpas a chysylltiadau hanesyddol â'r diwydiant mwyngloddio metel lleol arwyddocaol. Roedd y gwerth esthetig a chymunedol yn ganolog i uchel o ystyried yr edrychiad, y ddealltwriaeth, yr amgylchoedd a mynediad at yr ased. Roedd y lleoliad yn cynnwys tir y Count House, sydd ei hun yn rhestredig Gradd II, a nodweddion hanesyddol ac archeolegol cysylltiedig o fewn y tiroedd hynny, ynghyd â nodweddion mwyngloddio wedi'u gwasgaru ar draws y pentref (gan gynnwys dau adeilad rhestredig arall) a'r cefn gwlad o amgylch.*

*Ystyriwyd y byddai datblygiad arfaethedig strwythur monitro llif yn cael effaith andwyol fechan ar werthoedd tystiolaethol ac esthetig a gosodiad yr ased. Awgrymwyd mesurau lliniaru i sicrhau y gallai'r effaith aros yn niwtral.*

## **1. INTRODUCTION**

### **1.1 Project Background and Justification**

- 1.1.1 The Trust for Welsh Archaeology – Dyfed Region (formerly DAT Archaeological Services) were commissioned by the Coal Authority to produce a Heritage Impact Statement for proposed works that may affect the site and setting of the Level Fawr adit in Pont-rhyd-y-groes, Ceredigion (grid ref. SN 7393 7221). The Level Fawr adit is a Grade II listed building (ref.10694) and this statement will accompany an application for listed building consent to the local planning authority, Ceredigion County Council.
- 1.1.2 The Level Fawr adit is the discharge point of a metal mining adit. Work on the Level Fawr adit started in 1785, and over the subsequent 100 years it grew to become the longest drainage adit in mid-Wales, serving several mines in the area. The adit mouth is well-preserved and represents an important surviving element of an industry that helped shape the development, settlement and appearance of the local landscape. The significance of the site is recognised in its designation as a Grade II listed structure (ref.10694). The adit is also recorded on the regional Historic Environment Record as PRN 57523 / 96529, and on the National Monuments Record as NPRN 33880.
- 1.1.3 The Level Fawr adit is located in the gardens of Count House, itself a former mine office building, within the village of Pont-rhyd-y-groes. The adit discharges into a lined channel running through the gardens, down the hillslope to the south and into the Afon Ystwyth. The discharge from the adit into the Ystwyth is believed to be a main factor in the waterbody failing to achieve WFD good status. Level Fawr Adit is the main drainage for five former metal mine sites further up the catchment including Glog Fach. A case study published by NRW stated that Level Fawr discharges over one tonne of harmful metals into the Ystwyth River each year.
- 1.1.4 The Coal Authority are investigating potential remediation works in order to reduce metals entering the Ystwyth River. In the first instance, in order to gain an accurate record of the discharge, a flow monitoring structure is proposed, which will be installed close to the discharge point, before the water channel is joined by surface water discharge. This flow monitoring structure will take the form of a flume in front of the adit entrance, over which the water can flow, with a logger and gaugeboard installed on adjacent walling.
- 1.1.5 The purpose of this Heritage Impact Statement is to identify the significance and setting of the affected historic asset, and consider and describe the effects the proposal will have on it, identifying mitigation measures (where necessary) to address the impact.
- 1.1.6 A desk-based assessment for both the Level Fawr Adit site and the associated Glog Fach mine site has previously been produced (Poucher 2023). This Statement has been prepared in association with that Assessment, which will be referenced throughout.

### **1.2 Policies and Guidance**

#### ***The Historic Environment (Wales) Act***

- 1.2.1 The Ancient Monuments and Archaeological Areas Act 1979 was previously the primary legislation for protecting archaeological remains and scheduled monuments. In addition the Planning (Listed Buildings and Conservation Areas) Act 1990 instructed planning authorities to give special regard to the desirability of preserving listed building, its setting, or any features of

special architectural or historic interest which it possesses. These Acts have been amended by The Historic Environment (Wales) Act 2016 which has three main aims as defined by Cadw:

- to give more effective protection to listed buildings and scheduled monuments;
- to improve the sustainable management of the historic environment; and
- to introduce greater transparency and accountability into decisions taken on the historic environment.

1.2.2 The new Act amends the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents. The Act most specifically provides better safeguards for the protection of scheduled monuments, listed buildings and historic parks and gardens. It also includes further guidance on place names.

### ***Planning Policy Wales***

1.2.3 Planning Policy Wales (Ed.11, 2021) sets out the Welsh Government's land use planning policies. Its primary objective is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

1.2.4 Chapter 6, 'Distinctive and Natural Places', explains how planning systems must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being of present and future generations. It also sets out the planning policies for the sustainable management of specific categories of historic environment assets.

1.2.5 Section 6.1 sets out national planning policy in relation to the historic environment, and seeks to protect, conserve, and enhance the significance of historic assets. Specific guidance in relation to listed building is provided in paragraphs 6.1.10 to 6.1.13, which states that there should be a general presumption in favour of preserving or enhancing listed structures and their setting, and any applications for Listed Building Consent should be suitably justified and considered the impact of change on the significance of the listed structure.

### ***Technical Advice Note 24: The Historic Environment***

1.2.6 This technical advice note provides guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building consent applications. It also provides specific guidance on how the following historic environment assets should be considered:

- scheduled monuments
- archaeological remains
- listed buildings
- conservation areas
- historic parks and gardens
- historic landscapes
- historic assets of special local interest
- World Heritage Sites



- 1.2.7 TAN24, paragraph 5.13 states that a Heritage Impact Statement which is proportionate to the significance of the listed building and the degree of change proposed is required in support of application for Listed Building Consent.
- 1.2.8 The technical advice note usefully gathers together the selection criteria employed in the designation of scheduled monuments and listed buildings and the registration of historic parks and gardens and historic landscapes.
- 1.2.9 Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic environment assets) is provided by Cadw acting on behalf of Welsh Government.
- 1.2.10 This report will also make reference to other guidance documents published by Cadw, namely: Conservation Principles (March 2011); Heritage Impact Assessment in Wales (May 2017); Managing Change to Listed Buildings in Wales (May 2017); Managing Historic Character in Wales (May 2017); and Setting of Historic Assets in Wales (May 2017).

#### **Local Development Plan**

- 1.2.11 The Historic Environment is subject to the relevant policies and procedures as laid out in the Ceredigion County Council (CCC) Local Development Plan (LDP) 2007 – 2022.
- 1.2.12 The historic environment is referenced throughout the document in numerous policies, emphasising its significance to the county. The main policy references to the Historic Environment are outlined in the strategic policy DM19 Historic and Cultural Landscape:

*Development affecting landscapes or buildings which are of historical or cultural importance and make an important contribution to the character and interest of the local area, will be permitted where the distinctive appearance, architectural integrity or their settings will not be significantly adversely affected. Where possible development should enhance these qualities and special character.*

### **1.3 Methodology**

- 1.3.1 The objective and purpose of this document is to identify the heritage value and significance of the listed structure, including its setting, and assess whether the impacts of the proposed development will have a positive, neutral or negative impact on its significance, and whether its significance will be sustained, harmed or enhanced.
- 1.3.2 This statement will utilise the Cadw guidance as laid out in section 1.2.10.
- 1.3.3 Baseline data has been obtained and assessed as part of a wider ranging desk based assessment undertaken on this scheme (Poucher 2023). This assessment utilised the following sources:
- The regional Historic Environment Record (HER) data and other relevant information;
  - National Monuments Record of Wales information as held by the Royal Commission on Ancient and Historic Monuments of Wales in Aberystwyth (RCAHMS offices in Aberystwyth);
  - Accessible bibliographic, cartographic and photographic information held at the National Library of Wales and potentially information held at the Local Studies Library;

- Identification of any scheduled monuments, listed buildings, parks and gardens, historic landscape character areas, or conservation areas within or in the vicinity of the site area and information on them held by Cadw;
  - Relevant web-based information, including cartographic information, satellite imagery, geological information and LiDAR data;
  - Relevant information held by the landowner and Coal Authority;
  - Existing assessments and information from any previous and ongoing archaeological investigations;
  - Site visit and walkover survey;
- 1.3.4 For the purposes of this Statement the significance of the assets being discussed has been assessed with reference to the values identified in the guidance document *Conservation Principles* (Cadw 2011). The four values being:
- Evidential value: which derives from the potential of a place to yield evidence about past human activity;
  - Historical value: which derives from the ways in which past people, events and aspects of life can be connected through a place to the present;
  - Aesthetic value: which derives from the ways in which people draw sensory and intellectual stimulation from a place; and
  - Communal value: which derives from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.
- 1.3.5 The setting of assets such as these includes 'the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surrounding evolve' (Cadw 2017). As such it often extends beyond the physical boundaries of the asset itself. This may include physical elements in its surroundings, such as boundaries of other monuments, relationships with other historic assets and natural features, or associated agricultural, industrial or other surroundings. Less tangible elements are also included, such as function, sensory perceptions, historical, artistic, literary and scenic associations.

## 2 HISTORIC ASSET AND LOCATION

- 2.1 The Level Fawr adit is located in the gardens of Count House, itself a former mine office building. The Level Fawr adit itself is Grade II listed as **The Entrance arch to the Lefel Fawr (ref.10694)**. This is described in the Cadw Listed Building description (abridged) as:

*Entrance arch to the 'Level Fawr' the most extensive mine drainage tunnel in central Wales. The Lefel Fawr was commenced in 1785 by John Probert to drain the Logaulas mine, one of the most ancient workings of the region. The level eventually also drained the Penygist and Glog mines.*

*The tunnel intended to run 360 fathoms (648 metres) to cut the seam [at Logaulas Mine] though still 17 fathoms (30.6 metres) above the bottom level. It did not reach the vein and after 30 years the project was abandoned before being extended the last few feet after 1824 by the Williams family, engineers. The dressing floors*

*were at the Lefel Fawr entry, where the accounting house survives (now Gwynfryn/Isfryn). The dressing floors were powered by water brought down via the mines. The Lefel Fawr was probably extended from Logaulas after 1856, by 1863 it was 700 fathoms (1260 metres) long, 242 fathoms (435.6 metres) past Penygist [Mine] but 140 fathoms (252 metres) short of Glog Fawr [Mine] which it reached only in 1872. The level is said to be still passable up to Pengwaith Eof Ysbyty Ystwyth.*

*It is not certain that the arch itself dates from 1785, it may be a refacing of the entry in the earlier C19, but the late C18 date seems more probable.*

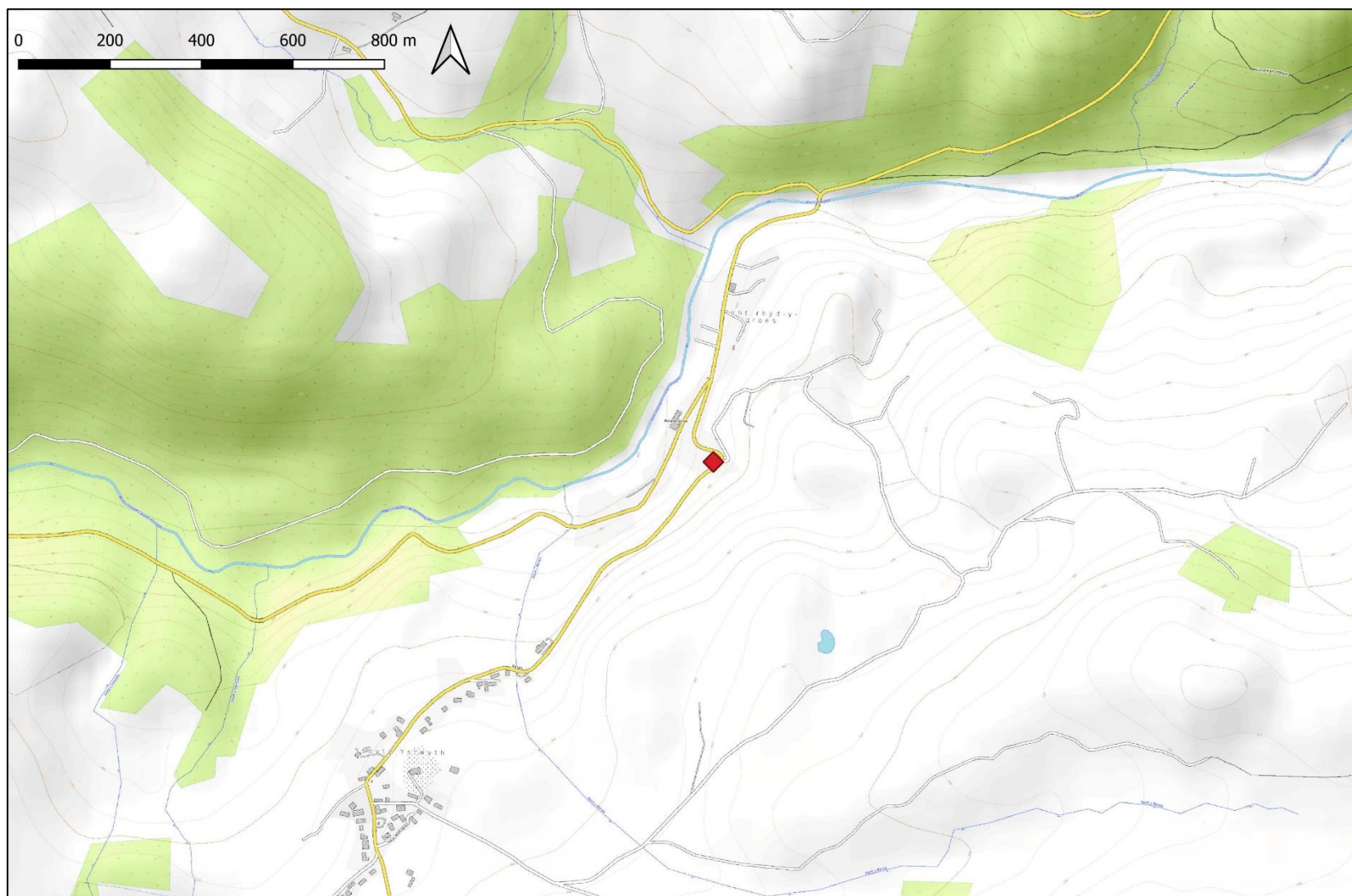
*Arch at entrance to the Lefel Fawr. Rubble stone jambs and ashlar segmental arch with finely cut radiating blocks and large keystone inscribed: 'This level was commenced AD. 1785' over crossed pick-axes. Arch is base of high rubble retaining wall carrying road.*

*Included as a remarkable surviving architectural relic of one of the most ambitious lead-mining engineering works of the region.*

- 2.2 The adjacent Count House is also Grade II listed, as 'Gwynfryn and Isfryn' (ref.10693), as is the nearby Bronheulog (ref.83407) on the opposite side of the road, and Lisburne House 100m to the north (ref.25603). These buildings may share some link to the Level Fawr adit and mining activity associated with it, the remaining listed buildings within the locality, examined as part of the desk-based assessment, share no clear links to the site.
- 2.3 There has been no previous intrusive archaeological investigations carried out at the site of Level Fawr or in the grounds around it. Archaeological investigations associated with Level Fawr are linked to an initial survey undertaken in 1993 by Protheroe-Jones, the current Principal Curator of Industry at the National Museum of Wales, as part of a survey of Ceredigion Metal Mines. In 2002 Cambria Archaeology (now the Trust for Welsh Archaeology – Dyfed Region) carried out a Metal Mines Project with the intention of addressing some of the issues raised in the 1993 survey (Sambrook 2002), which included a brief visit to the site. The site was assessed once more as part of a recent desk-based assessment (Poucher 2023), which included a site visit.
- 2.4 The adit entrance remains as described in the listing description. It is open and fronts a well-preserved stone-built adit with low-arched roof and flat base extending into the hillside in a straight line to the east. A modern iron pipe, which is broken within the adit, runs along the southern side of the adit floor. A constant stream of water empties into a channel immediately in front of the adit entrance. To one side lies a modern concrete culvert housed in a brick and concrete structure, believed at present to convey surface drainage. This empties into the same channel which is then largely directed into a buried concrete culvert. Adjacent to this the original line of the channel from the adit survives as a stone-built leat, which has been preserved as a garden feature. Where the concrete culvert and stone leat meet, the leat has been rebuilt, and water drains along both routes. The south side of the channel is formed by the iron pipe emerging from the adit and a bank of soft material behind, which has built up against an adjacent stone enclosure wall, which may have formed the original edge to the channel.
- 2.5 Above the adit entrance lies a vertical rubble-stone wall, a further 2m high, which forms the revetment under the road (B4343) that curves around

above the adit entrance and encloses the Count House gardens. The leat continues west through the turf-covered garden area in front of the Count House, before being covered over and running underneath the entrance drive to the Count House grounds. To the south of the adit entrance lies a mortared rubble-stone wall, forming the northern remains of a former enclosure. Adjacent to this lies a garage/store, rubble-stone built and 19th century in appearance, representing a former mining building and smithy (PRN 96531). In front lies a level gravel-covered drive/yard over a former mine dressing floor. Adjacent mining buildings to the southwest, now in the neighbouring property boundary, have been removed with the exception of Y Wern itself, which has been converted into a dwelling.

- 2.6 After exiting the Count House grounds the leat remains buried, emerging from a concrete culvert into an open stream down the slope to the northwest. This stream flows over a reinstated water wheel, under the road and into the Afon Ystwyth. The village of Pont-rhyd-y-groes surrounds the site, lying largely on the eastern slopes of the Ystwyth Valley. The river runs through a rocky course approximately 130m to the west of the site, and approximately 40m below the adit entrance.



**Figure 1:** Location map, showing the location of the Level Fawr adit within Pont-rhyd-y-groes, with Ysybytty Ystwyth to the south.

Map data from OpenStreetMap (OSM) <https://www.openstreetmap.org/copyright> 05/01/24





**Figure 2:** Detail map of the Level Fawr area, showing the Level Fawr adit (ref.10694) and surrounding listed buildings (green) in the vicinity overlaid on 2006 aerial image.

© Google Earth, 2023 Bluesky, Infoterra Ltd & COWI A/S

### **3 HISTORICAL BACKGROUND**

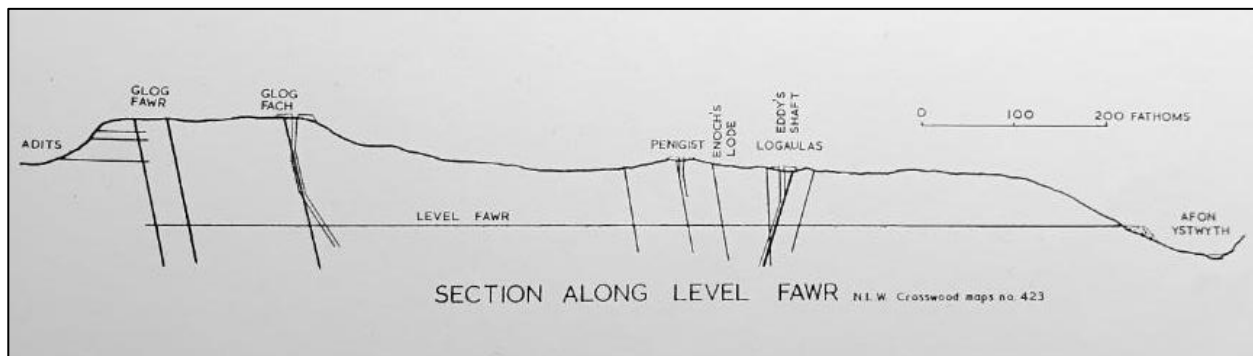
- 3.1 The Level Fawr adit is a product of the metal mining activity that had become the predominate industry in the region by the late 18<sup>th</sup> century. The origins of mining in the area may stretch back to the medieval period, when the area formed part of the extensive Cwmystywth Grange of Strata Florida Abbey. This mining is likely to have been relatively small-scale in nature and based on shallow mineral extraction where metal ores came close to the surface, and extensive medieval mining remains have been difficult to identify. Throughout the medieval period and much of the post-medieval period pastoral farming would have predominated, based around dispersed farming settlements.
- 3.2 During the late 16<sup>th</sup> and 17<sup>th</sup> century silver and lead had been identified in the hills of Ceredigion, which lay on the Central Wales orefield. At this time the Crown laid claim to all mineral deposits yielding deposits of silver or gold and in the late 1560s Queen Elizabeth had established the Society of Mines Royal, one of two mining monopolies in England and Wales. By the early 17<sup>th</sup> century Ceredigion was becoming one of its main centres of operation with characters such as Sir Hugh Myddleton and Thomas Bushell heavily involved in the mining operations. It is possible there were workings at nearby Logaulas mine (PRN 24586) during this period, although the extent of these works is not clear. In the late 17<sup>th</sup> century this royal monopoly was challenged by prominent local landowners and Sir Carberry Pryse and others obtained an Act of Parliament in 1693 to allow them to exploit their lands more systematically, opening up the private development of mining in the area. Pryse exploited his Gogerddan Estate to the north, whilst this area was part of Lord Lisburne's estate.
- 3.3 Throughout the 18<sup>th</sup> century several mining complexes developed in the local area, the main complexes being Glog Fach and Glog Fawr, Logaulas and Penygist mines, known collectively as the Lisburne Mines. The history of these mines is often interlinked, using the same network of mining features across the landscape and sharing a management and workforce. Lead was the main mineral being mined, although zinc and silver were also being extracted.
- 3.4 As mentioned, Logaulas (PRN 24586) may be the oldest of the mines, located halfway between Glog Fach and Level Fawr. There may have been workings here prior to the 18<sup>th</sup> century (PRN description), but it is known to have been worked during the 18<sup>th</sup> century, although early 18<sup>th</sup> century workings in the area are ill-defined. During the 1760s and 70s the mine was under the management of Chauncey Townsend (Lewis 1967), the lease passing to John Probert in 1785, who had previously been operating mines in Shropshire. At this time the mine reached a depth of around 140m (Bick 1974;22) and was being drained via pumps, operated manually or by horse whims, both laborious processes. To combat flooding issues a new level was cut from Pont-rhyd-y-groes, the Level Fawr adit (PRN 96529), to drain the mine, although it was some years before the adit reached the mine. Initially the return from Logaulas was poor and works were abandoned. It restarted from 1824 under the Williams family, whose initial exploitation appears to have met with great success (Smyth 1848) but did not last long before being abandoned. In 1834 the lease for the Lisburne mines passed to John Taylor. He was a mining engineer of some renown, having managed mines in Cornwall, Devon and Cumbria since the late 18<sup>th</sup> century. It was under the management of Taylor (and subsequent to 1845, Taylor & Sons), that the Lisburne mines reached their peak. They took over Logaulas at a time of rising prices and discovered a new rich lode. By 1860 the mine had

been driven down to the 130 fathom (around 240m) level from the surface, from which water and ore had to be pumped and wound back up to the Level Fawr adit. Between 1834 and 1891 the mine yielded 39,000 tons of lead ore, second only to Frongoch in the Lisburne mines.

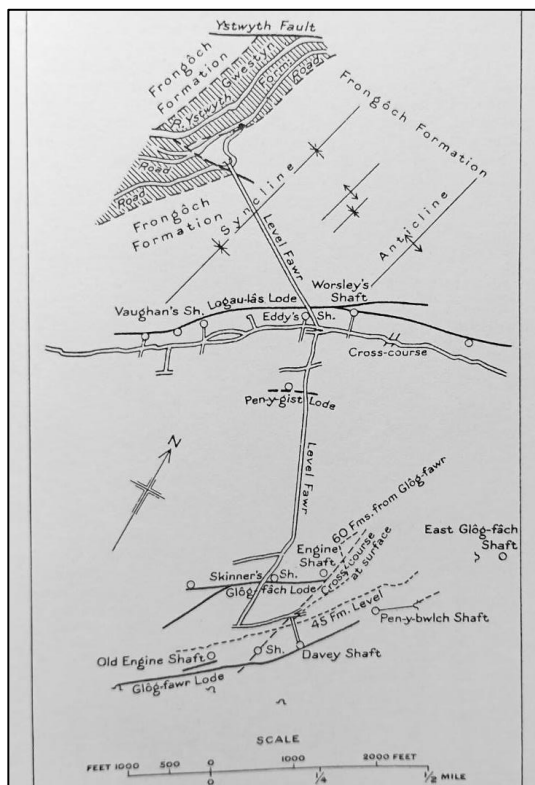
- 3.5 A short distance to the southeast of Logaulas mine lay Penygist mine (PRN 25922). Little appears to be recorded about this mine (Bick 1974;28), its output and sales may have been included along with that of Logaulas, but it was being worked in the 1840s and was connected to and drained by Level Fawr.
- 3.6 Glog Fach/Fawr (PRN 25931 & 25932) lay further to the southeast and was a more extensive complex than Penygist, the two mines often working in conjunction on the same mineral lode. It is possible that early workings are present at Glog Fach. Liscombe (c.1869-70) stated that at Glog Fach there 'presented certain indications of ancient works at and near the surface', and Spargo (1870) was more definite, stating 'Undoubtedly, from a remote period, mining had been carried out at and near the surface'. A letter from John Sheldon, dated 1824, in the National Library describes the seemingly sporadic excavation of ore from Glog Fach common and Llethr Bank between 8 and 18 years previously (c.1806 – 1816), with 'trenches' described on Glog Fach common suggesting surface mining. More systematic mining appears to have started when the Williams took over the lease of the Lisburne mines in 1824. A report from 1835, reproduced by Bick (1974;25) states that Glog Fach was a mine from which the Williams 'derived their principal returns', possibly reaching a depth of around 50 fathoms (c.90m) (Jones 1922;120).
- 3.7 When the Taylors took over in 1834 they constructed a long leat from Llyn Fyrddon 5km to the east and established a reservoir (PRN 97599) at Glog Fach/Fawr. The 1835 report reproduced by Bick (1974;25) states 'at Glogfach the wheel-pit has been made, and pulleys are fixing to carry a long line of flat rods to the engine shaft. The expectations from this mine are very great'. This appears to have proved overly optimistic however, by 1840 a steam engine from Glog Fach was relocated to a more profitable mine and the workings closed down shortly after (Bick 1974;25). Work at Glog Fach recommenced in 1856, coming into production in 1859 and producing regular returns for the next 30 years. Bick (1974;28) considers it likely that the Level Fawr adit was only extended as far as Glog Fach subsequent to the recommencement of mining in 1856. Descriptions by Moissenet in 1860 suggest the deepest levels reached 73 and 88 fathoms (133m & 160m), with the undressed ore being carted by road to the dressing floors (PRN 9153) at the Level Fawr adit. By 1863 the dressing was being carried out at Glog Fach, and deepest workings eventually reached 130 fathoms (238m). Silver was also being mined from Glog Fach, although reports on the quantity vary (eg. Lisburne c.1869-70 & Spargo 1870).
- 3.8 At neighbouring Glog Fawr works were restarted in 1860, returning ore in 1864 through until 1893. In 1907 the lease passed to the Lisburne Development Syndicate who sank a new deep shaft to the east of the reservoir and cut a branch to meet it from Level Fawr. This early 20<sup>th</sup> century mine was powered by a turbine generating electricity, accompanied by oil engines, with the 20<sup>th</sup> century workings providing some of the clearest surviving evidence from the swansong of metal mining in the mid-Wales orefield (Protheroe-Jones 1993). This mine finally closed in 1920.
- 3.9 The Level Fawr adit (PRN 96529) connected all these mines. It was started by Probert in 1785 but took around 100 years to reach its full extent. It



was tied in to the 90 fathoms level (c.165mOD). Initial work was slow, hampered by hard strata and rising costs. By 1788 James Lowe, the mine manager, reported that only 100 fathoms (c.180m) had been cut (Bick 1974;28) and it appears to have taken some 30 years to reach the first of the mines at Logaulas (*ibid*;24). The level had been extended to Penygist by the 1840s. As stated, it is thought that work may not have begun on extending Level Fawr further until work began in earnest at Glog Fach in 1856. By mid-1863 Level Fawr extended at least 700 fathoms (c.1.3km), which took it 400m beyond Penygist, but still around 250m short of Glog Fach. Industrial historians (Bick 1974;28) suggest the level did not reach Glog Fach until 1872, however it does appear to be marked as far as this mine on a mine plan of 1863 held at the National Library, at which point it became the longest drainage adit in mid Wales. The plan clearly marks the route of the adit running in a straight line east from the adit portal for approximately 640m to 'Eddy's Shaft', at which point it turns southward to run through Penygist mine to a point just beyond the trackway to the north of Glog Fach mine, where the route takes a slightly more vacillating line through the mine. A final connection was also made from the early-20<sup>th</sup> century workings at Glog Fawr sometime between 1907 and 1920.



**Figure 3:** Section of the Level Fawr adit, taken from Bick 1974;31.

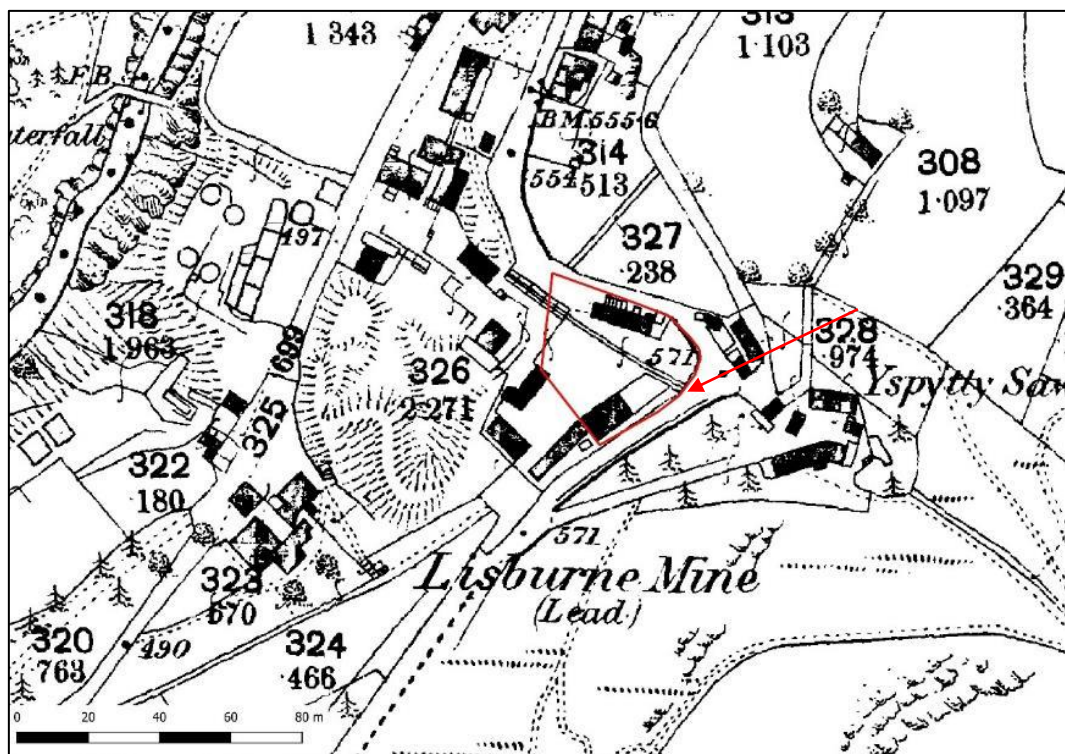


**Figure 4:** Plan of the Level Fawr adit, and location of main mines and lodes. Taken from Jones 1922;120.

- 3.10 A complex of offices, workshops and ore dressing plant (PRNs 9153, 96530-3) grew up around the mouth of the Level Fawr adit (PRN 57523 / 96529), along with the counting house (PRNs 8748 / 57522) where the miners received their wages. When the Taylor's arrived in the 1830s the main road through the area was the 18<sup>th</sup> century toll road (PRN 109002) that winds through Pont-rhyd-y-groes immediately above the Level Fawr adit. To carry ore and supplies the Taylors extended the road along the south bank of the Ystwyth, below the Level Fawr adit. This divided the dressing floors. Above, and in front of the adit entrance lay the 27inch diameter dressing rolls for coarse crushing, with stamps for fine crushing on the lower ground to the west. As well as being fed by the Level Fawr adit, surface leats also carried water from the reservoir (PRN 97599) at Glog Fach, where it also powered the water wheels at Logaulas mine and a sawmill above Level Fawr, where Crud yr Awel currently stands. In 1859 between 70 to 80 men, women and children were employed above ground on the dressing floors at Level Fawr and another Lisburne mine at Frongoch. In addition, 324 men were employed underground across all the Lisburne mines (Bick 1974;28).
- 3.11 The layout around the portal of the Level Fawr adit is first illustrated on the Ysbyty Ystwyth tithe map of 1849 (Fig 5). This marks the mouth of the adit with two buildings adjacent, the counting house (PRN 8748 / 57522) and a building to the south (PRN 96531) described as a smithy, currently surviving as garages/stores. A level area lies in front of these buildings, with a slope to the west and buildings at the base of the slope. This area is labelled as 'Level Fawr Mine Works & Sheds'.
- 3.12 The detailed Ordnance Survey map of 1888 (Fig 6) shows quite a complex of buildings around the Level Fawr entrance, labelled as 'Lisburne Mine'. The Level Fawr adit is marked, with a straight leat in front feeding a wheel pit further down the hill. The counting house is marked, as is a walled enclosure and building to the south (the previous 'smithy'), which still survive. Further buildings are attached to the south and west of this, surrounding the dressing floor, but only one of these buildings survive, since converted into the neighbouring residence of Y Wern. The leat continues down the slope through a series of enclosures and mine buildings, with a complex of buddle pits, settling tanks and spoil tips at the base of the slope. Above Level Fawr to the east lies Ysbyty Saw Mill (now occupied by the site of Crud yr Awel), which is fed by water draining from the former Logaulas mine to the east, which may then subsequently have fed into Level Fawr.



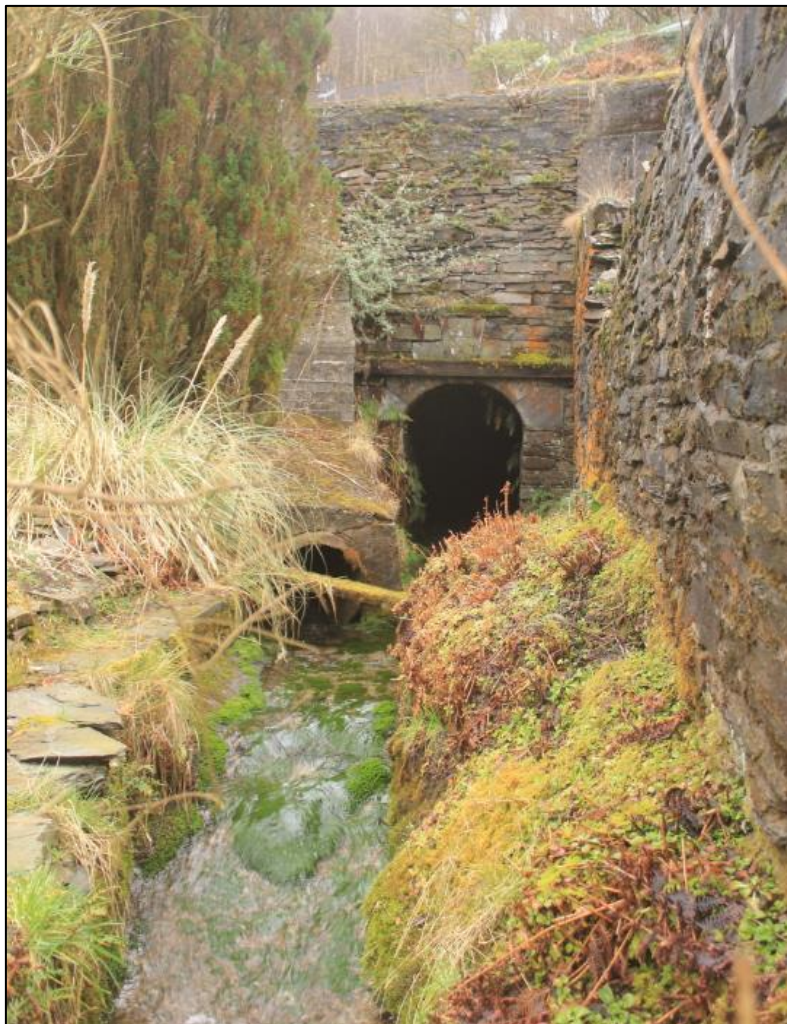
**Figure 5:** Extract from the 1849 tithe map showing the Level Fawr adit (arrow), with the count house below to the left, and a smithy below to the right. North is to the left.



**Figure 6:** Extract from the Ordnance Survey map of 1888 showing the layout around the Level Fawr adit (arrow).



- 3.13 Much of the settlement of Pont-rhyd-y-groes formed to accommodate incoming workers at the mines. As evidenced in a Government Commission into working conditions in the mine in 1863 (Bick 1974; 29-30) the workers cottages were generally small, dark and dirty, with ill-fitting windows and doors and large draughty chimneys. These cottages were erected both within the village and dispersed throughout the surrounding countryside, only some of which still survive. Some larger houses were also built, such as Bronheulog (PRN 58241), Bronygraig (PRN 58242), Glyn Berws (PRN 58246), Mount Hazel (PRN 58248) and Tan Gelli (PRN 58256) that may also have links to the mining industry. To serve the spiritual needs of a growing population chapels were also built, such as Capel Bethel (PRN 19731), Capel Heleth (PRN 19778) and Methodist chapels near Pant y Dail (PRN 19730) and Waen Lloi (PRN 19745) and a new church was built in Ysbyty Ystwyth (PRN 50164) adjacent to the smaller original church (PRN 5489). The mines also provided for new schools, including one for mining apprentices (PRN 43815 / 58027) built in the mid-19<sup>th</sup> century, and a later general school (PRN 19775) built in the late 19<sup>th</sup> century.



**Photo 1:** View east of the entrance to Level Fawr adit (PRN 57523 / 96529, Listed Building ref.10694). The later culvert lies on the left, and contemporary enclosure wall on the right.





**Photo 2:** View east of the entrance to the Level Fawr adit (PRN 57523 / 96529, Listed Building ref.10694), with the date stone above the archway.



**Photo 3:** View east showing the Level Fawr adit with 1m scale.





**Photo 4:** View east showing the interior of the Level Fawr adit.



**Photo 5:** View northwest along the line of water channel as it emerges from Level Fawr adit. On the right the brick built modern culvert intrudes, with the diverted water course heading to the left, the original line lies to the right (arrow). 1m scale.





**Photo 6:** View northwest along the line of leat as it passes through the Count House gardens. 1m scale.



**Photo 7:** View southeast showing the line of the open leat through the garden in front of the Count House on the left. The Level Fawr adit entrance lies in the retaining wall to the rear (arrow).





**Photo 8:** View north of The Count House (PRN 8748 / 57522 / 96530, Listed Building ref. 10692). The line of leat is visible in the foreground.



**Photo 9:** View southeast showing mine building/smithy (PRN 96531), with former dressing floor area in front. The Level Fawr adit entrance lies out of shot to the right.





**Photo 10:** View northeast showing the enclosure walling (arrow) that forms the south side of the channel, the Level Fawr adit entrance lies behind it.

## 4 ASSESSMENT OF SIGNIFICANCE

### 4.1 Values

4.1.1 The four values (Cadw 2011 *Conservation Principles*) upon which the significance of the historic asset is assessed are summarised below:

Value	Definition
Evidential	Those elements of a historic asset which can provide evidence of past human activity, including physical remains or historic fabric. These remains provide primary evidence for how and when an asset was made or built, what it was used for and how it has changed over time. Additional evidential values can be obtained from documentary sources, pictorial records and archaeological archives or museum collections.
Historic	The way in which a historic asset might illustrate a particular aspect of past life, or an association with a notable family, person, event or movement. Historic value may be illustrative or associative, and may be less tangible than evidential value, and might not become clear until all evidential values have been gathered together.
Aesthetic	The way in which people draw sensory and intellectual stimulation from an historic asset. This might include the form of an historic asset, its external appearance, how it lies within its setting: and can be the result of

	conscious design or the fortuitous outcome of the way in which an historic asset has evolved and been used over time, or a combination of both.
Communal	Derives from the meanings that an historic asset has for the people who relate to it, or for whom it figures in their collective experience or memory. Communal value may be commemorative or symbolic and may change over time. It may have social value, acting as a source of social interaction, distinctiveness or coherence; economic value, providing a valuable source of income or employment; or they may have spiritual value, emanating from religious beliefs or modern perceptions of the spirit of a place.

**Table 1:** Summary of value criteria.

- 4.1.2 Evidential – The evidential value is high. The adit portal itself is an extant surviving structure, in good and seemingly stable condition. The adit tunnel similarly appears well preserved beyond the adit entrance, and clearly still channels water from the mine workings. The route has not been extensively explored, and collapse and blockages are likely along its long route. The adit was part of a larger mine processing site at Level Fawr, which included processing buildings, administrative buildings, a dressing floor and other features, as illustrated on historic map sources. Some contemporary standing structures associated with the mine processing site, of which the adit was a part, also survive, such as the Count House, an adjacent enclosure, and a former mine building/smithy. The rest of the site has been cleared and levelled. There have been no intrusive archaeological investigations to test the potential for below-ground remains to survive, but there is no reason to suspect clearance works were particularly extensive and therefore good potential exists for buried archaeological remains to survive directly related to activity associated with the adit. Together with the extant above ground remains, including the adit entrance itself, the archaeological potential suggests a significant evidential value to the Level Fawr site as a whole. The adit also physically connects a number of extensive mining sites in the hills to the east and southeast, each differing in their current condition and potential, but largely also offering extensive archaeological evidence of interconnected activity that played such a significant role in the local landscape.
- 4.1.3 Historical – Historical value is high. As alluded to in the evidential value, the Level Fawr adit entrance is a well-preserved part of the lead-mining industry that is intrinsically linked to the development of settlement at Pont-rhyd-y-groes and the use of the landscape in this area from the late 18<sup>th</sup> century through into the 20<sup>th</sup> century. Various mine owners for the Lisburne mines, mine managers such as Probert, Williams and Taylor, and mine surveyors and engineers directly associated with the construction and operation of Level Fawr are variously documented, and all had an important role to play in the development of the local area during this period.
- 4.1.4 Aesthetic – Aesthetic value is medium. Given its current state of preservation and appearance the Level Fawr portal is a visible and accessible way to connect to the mining landscape, along with other prominent visual elements such as the adjacent Count House, and the associated waterwheel that lies at the foot of the slope to the southwest, which provides strong aesthetic value. This accessibility is however limited by the fact the site lies

in a private garden which therefore restricts access and general visibility, making it a less obvious industrial feature to passing visitors and far less prominent than the Count House and waterwheel. The construction of the modern culvert to one side also impinges on the visibility of the site, and the Level is not a prominent feature of historic images of the area. However, along with its setting the Level Fawr adit entrance remains an important visual reminder of the industrial past, and one that can be readily understood given the surviving date engraving and the open and functioning condition of the adit.

- 4.1.5 Communal – Communal value is medium to high. As has been emphasised in the other values there is a clear and important link to the metal mining past, the adit entrance being a physical and historical link to mine sites that are otherwise less visible and accessible. This metal mining heritage has been crucial in shaping the current landscape. As with aesthetic value the communal value is more limited by the fact the site lies in a private garden and is therefore less accessible to the general public and not visible to passing visitors.

## **4.2 Setting**

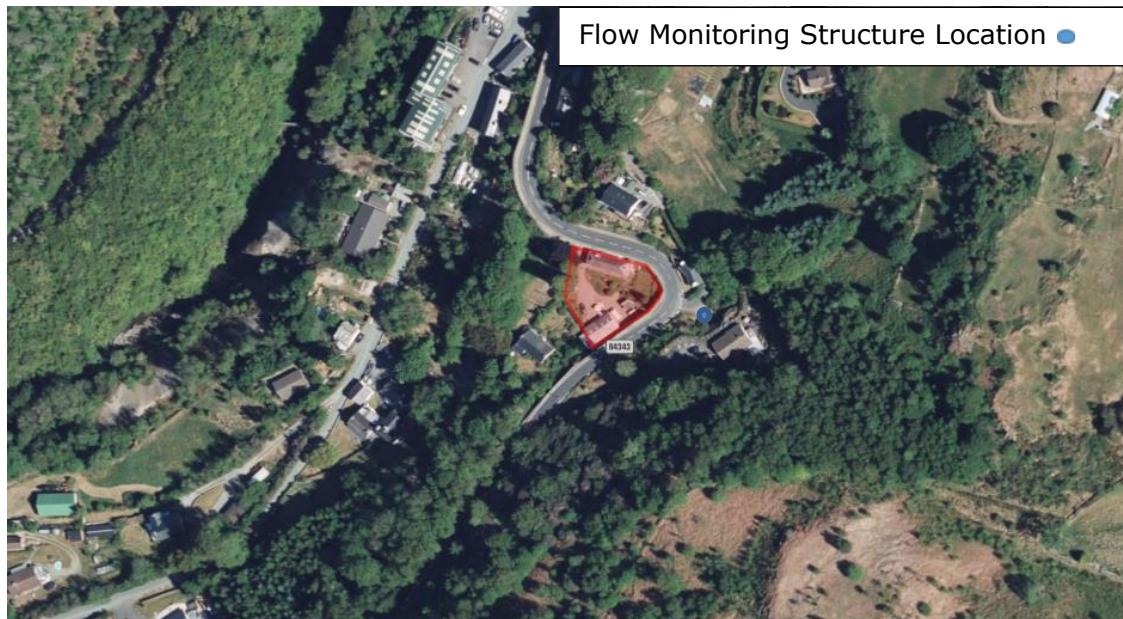
- 4.2.1 In addition to the values outlined above, the setting of the Level Fawr adit entrance has also been assessed. The setting can be summarised as the surroundings in which the asset is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape.
- 4.2.2 The immediate setting of the Level Fawr adit entrance is formed by the adit that continues into the hillside behind, and surrounding contemporary features and structures that include the stone-lined leat that crosses the garden in front, the Count House to the northwest, the partially walled enclosure immediately to the south and the former industrial building now converted into a garage to the south. These features are all part of the same contemporary and interconnected industrial complex around the Level Fawr adit, therefore closely connected in origin and function. There is also a link to both buried archaeological remains and the current visual and physical setting of the adit. The remaining structures described above were part of a larger complex of industrial structures and a dressing floor for which buried remains may survive. This industrial site was largely contained by the road that encloses the current garden and grounds of Count House and therefore the current gardens and grounds form both the current visual setting for the site but also include much of the original contemporary industrial setting. This industrial site did not sit in isolation however, and therefore extends beyond the current grounds, historically linked to both the neighbouring property to the south and to the restored waterwheel and other mining remains running down the hillside and at the base of the valley to the west.
- 4.2.3 The sites mentioned above provide the context within which the Level Fawr adit can be understood and appreciated, but the complete setting should also embrace the metal mining extraction sites themselves that are scattered across the hills to the east and southeast, including the sites of Logaulas, Penygist Glog Fach and Glog Fawr. These sites used the adit and therefore have both a physical and functional link to the adit portal and processing site at Level Fawr.
- 4.2.4 The development of the metal mining industry in the local area and the development of the settlement of Pont-rhyd-y-groes are intrinsically linked. As a functional part of the mine processing site at Level Fawr the setting also embraces elements of the surrounding settlement to some degree, including nearby listed buildings. To the east lies the site of the former

Ysbytty Saw Mill which may have made use of the adit as a drainage feature, but the site appears now to have been cleared and replaced by the current dwelling of Crud-yr-Awel. Adjacent lies Bronheulog, a Grade II listed house (Ref.83407). No direct link to the Level Fawr site has been established, but the listing description does note a '1785' date plaque on the house, albeit a 20<sup>th</sup> century installation, but one that suggests a link to the adit portal which is similarly dated. Various other standing structures within the village may have been erected as part of the larger mining complex associated with the site, or housing workers dependent on the site. Lisburne House, a Grade II listed building to the north (ref.25603) was built as a warehouse, and used in part as a mining apprentices school for the Lisburne Mines, of which the Level Fawr site and its associated mines were an important component.

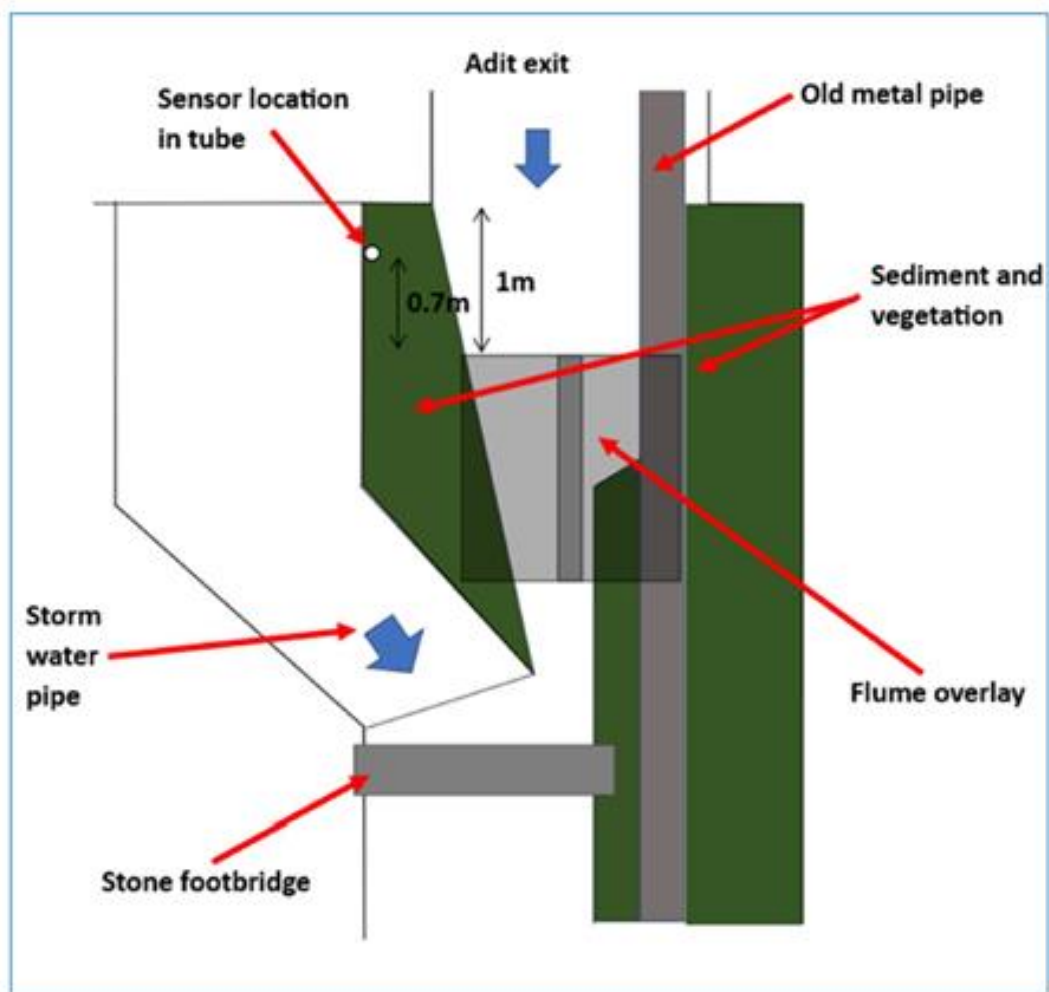
## **5 DEVELOPMENT PROPOSALS AND IMPACTS**

### **5.1 Development Details (Figs. 7 – 12)**

- 5.1.1 The intention is to install a flow monitoring structure close to the mouth of the Level Fawr adit entrance to measure the water flow from the adit. This will be placed between the adit portal and the adjacent modern storm water pipe structure so only the adit flow will be monitored.
- 5.1.2 Initial clearance works will include the removal of the modern iron pipe that emerges from the adit entrance and the partial removal of some soft sediment and vegetation that has built up on both sides of the channel. The channel in front of the adit, from the entrance to the storm water pipe structure, will be lowered slightly by the depth of the slabs which will be laid as a base level for the monitoring structure.
- 5.1.3 A liner, likely to be some form of butyl pond liner, will be installed along the base from the adit entrance. A base of heavy slabs will be laid over the liner and into the channel and levelled. The flume structure will comprise a V-shaped metal flume, approximately 0.5m wide and 0.2m high. This flume will be placed 1m from the adit portal, central to the portal and attached to the slab base using threaded bar and levelled. Once in position the liner will be adhered to the front face of the flume inlet to ensure all water is directed through the flume.
- 5.1.4 The liner in the channel upstream of the flume will be covered with the excavated channel material and slabs placed over the upstream end of the liner. Sandbags and excavated material will be used to backfill around the flume.
- 5.1.5 A sensor and logger will be fixed vertically to the face of the adjacent storm water pipe structure, 0.7m upstream of the flume. The logger is enclosed in a standard box 100mm by 100mm by 500mm, with the sensor within a tube 42mm in diameter. This will be clamped to the wall with brackets, with a gaugeboard attached.
- 5.1.6 It is anticipated that the monitoring structure will remain in place for up to five years. Subsequent to this period, all monitoring structural elements will be fully removed and the channel returned to its current condition, albeit with the iron pipe removed.

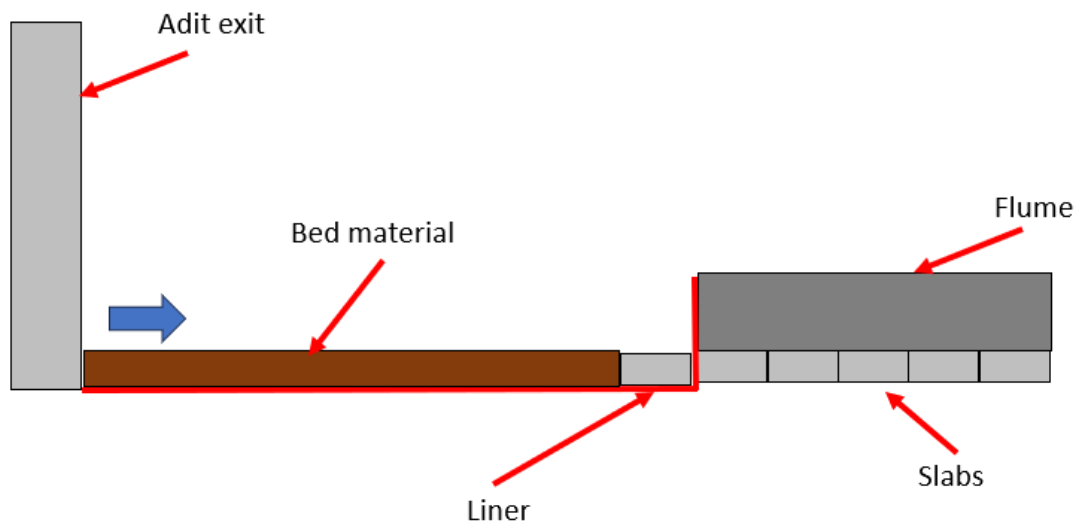


**Figure 7:** Location of Level Fawr monitoring structure.



**Figure 8:** Schematic plan of the proposed flow monitoring structure.





**Figure 9:** Profile of the flow monitoring structure.



**Figure 10:** Example of the flume to be used in the flow monitoring structure. The proposed structure will not use a concrete base or stone gabions illustrated in this example.



**Figure 11:** Image demonstrating development proposals and location of data logger and sensor on the left.



**Figure 12:** Example of similar data logger, sensor and gaugeboard to be used in the proposed development

## **5.2 Development Impacts**

- 5.2.1 The proposals have been designed to avoid any physical impacts to the Grade II listed remains of the Level Fawr adit entrance.
- 5.2.2 The removal of deposits within the base of the channel to accommodate the liner and slabs, and the removal of soft built-up material along the edges of the channel, has the potential to reveal and potentially disturb built elements to the channel in front of the Level Fawr adit entrance. At present the exact form and condition of any built elements to this channel is unclear. It is assumed that the installation of the storm water pipe to the north will have removed any original channel elements on this side and it is possible the enclosure wall to the south formed the southern side of the channel. The form of the base of the channel is unknown. As it runs through the garden to the west the channel is an open stone-built leat, although it is possible some of this may have been rebuilt as a garden feature and may not necessarily be entirely original.
- 5.2.3 The flume and other elements of the monitoring structure and channel is to be weighed down with the use of the base slabs and sand bags, with no permanent fixtures used. The sensor and logger will be attached to the storm water drain structure using a fixed bracket, but this is a modern structure and not part of the listed structure.
- 5.2.4 The possible impact upon a built structure within the channel in front of the Level Fawr adit entrance will have a potentially detrimental impact on the evidential value of the asset by removing associated archaeological evidence. The installation of a modern feature in front of the adit entrance will also change the appearance of the adit and have a potential detrimental impact upon the aesthetic value of the asset. This impact is however considered temporary as the flow monitoring structure will be removed after approximately 5 years. The proposed development is not considered to alter the historical or communal values of the asset.
- 5.2.5 Changes to the setting of the listed building are considered minimal. The potential impact to associated archaeological remains is discussed above, in relation to the potential impact on built structural remains of the channel emerging from the adit entrance, but proposed groundworks are relatively limited in nature, and structural remains may already have been adversely impacted through the construction of the modern storm drain structure adjacent. There will be a visual impact through alterations to the current appearance of the channel immediately in front of the listed structure. This visual impact is minimal, the listed structure will remain clearly visible and unaltered, the line of the channel will not be changed, and the visual intrusion will be temporary in nature, albeit for an anticipated 5 years. Surrounding structures and elements of the immediate setting within the Count House gardens will remain unaltered.

## **5.3 Mitigation**

- 5.3.1 Archaeological mitigation may assist in reducing potential detrimental impacts of proposed development, as well as enhancing potential beneficial impacts.
- 5.3.2 Archaeological monitoring (watching brief) of ground-disturbing works, such as the clearance of channel material and soil build-up, should ensure that any structural or other archaeological remains that are revealed during the course of these works are adequately investigated and recorded. Should unforeseen archaeological discoveries come to light during the works, or archaeological remains of high significance exposed, the monitoring



archaeologist should have the power to halt any ground works to allow all relevant parties (developer, curatorial archaeologist) to develop a suitable contingency scheme for more comprehensive archaeological investigation and recording, or adapting the design scheme to preserve archaeological remains in situ, whichever is deemed most appropriate.

- 5.3.3 The suitable investigation and recording, or preservation, of potential archaeological remains through archaeological monitoring of groundworks will ensure that the evidential value of the asset remains unchanged, with the potential to add to the knowledge and understanding of the asset which could be considered a slight beneficial impact.
- 5.3.4 The design of the flow monitoring structure has been produced with the aim of keeping the physical and visual impact to a minimum. The impacts upon the aesthetic value and setting will be mitigated by the removal of all elements of the flow monitoring structure after approximately 5 years. Therefore no further mitigation is suggested to reduce any potential impact on the aesthetic value of the asset and the setting of the asset.

## 6 CONCLUSION

- 6.1 The Trust for Welsh Archaeology – Dyfed Region (formerly DAT Archaeological Services) was commissioned by the Coal Authority to produce a Heritage Impact Statement for proposed works that may affect the site and setting of the Level Fawr adit in Pont-rhyd-y-groes, Ceredigion (grid ref. SN 7393 7221), a Grade II listed building (ref.10694).
- 6.2 The objective and purpose of this document is to identify the historic value and significance of the listed structure, including its setting, and assess whether the impacts of the proposed development will have a positive, neutral or negative impact on its significance, and suggest mitigatory measures if required.
- 6.3 The Level Fawr adit is the discharge point of a metal mining adit. Work on the Level Fawr adit started in 1785, and over the subsequent 100 years it grew to become the longest drainage adit in mid-Wales, serving several mines in the area. The adit mouth is well-preserved and represents an important surviving element of an industry that helped shape the development, settlement and appearance of the local landscape.
- 6.4 The significance of the asset was assessed on the four values as laid out in Cadw's *Conservation Principles* (Cadw 2011), along with its setting as laid out in Cadw's *Setting of Historic Assets in Wales* (Cadw 2017). These assessed values are laid out in Table 2 below:

Value	Level	Summary of assessment
Evidential	High	Good preservation and condition, along with surviving associated structures and features and a strong potential for associated archaeological remains in the immediate locality and in associated mining sites.
Historical	High	A well-preserved element of the significant local metal mining industry. Associated with documented owners, managers, surveyors and engineers who were significant figures in the locality.
Aesthetic	Medium	A visible and easily understood element of the local metal mining industry, associated with other mining structures in the village. Visibility limited however through location and a modern storm water drain.
Communal	Medium to High	A clear visible, accessible and understandable link to the locally significant metal mining industry, but with limited accessibility to the general public.
Setting	-	Significant elements of the setting include the current garden area of Count House, which includes contemporary and associated structures such as the Count House (also Grade II listed – 10693), enclosure walling, converted mine building and stone leat, along with a good potential for buried archaeological remains. Less apparent elements of the setting include the archaeological potential surrounding the Count House grounds, mining

		features within the valley to the west, more distant mine sites to the east and southeast, and buildings within the surrounding settlement of Pont-rhyd-y-groes, including the Grade II listed buildings of Bronheulog (83407) and Lisburne House (25603).
--	--	--

**Table 2:** Summary of asset values

- 6.5 The proposed development is for a flow monitoring structure, placed in the water channel immediately in front of the Level Fawr adit entrance. This will include the removal of some existing channel material to install a lined base and flume, kept in place by heavy slabs and sandbags, with a data logger and sensor attached to an adjacent modern structure. The structure will be removed in approximately 5 years. The listed structure will not be directly affected, but proposed works may have a detrimental impact on the evidential and aesthetic values of the asset, and a minimal, temporary impact on the setting. The impact on the evidential value can be mitigated through archaeological monitoring during development works, the remaining impacts are considered slight to neutral given the temporary nature of the development. These impacts are summarised in Table 3 below:

Value	Level before development	Impact of development	Mitigation measure	Level after mitigation
Evidential	High	Slight negative	Archaeological monitoring during development works	Neutral – slight positive
Historical	High	Neutral	-	
Aesthetic	Medium	Neutral - Slight negative	Removal after 5 years	Neutral
Communal	Medium – High	Neutral	Neutral	Neutral
Setting	-	Neutral – Slight negative	Removal after 5 years	Neutral

**Table 3:** Summary of impacts of development upon heritage values.

## 9 SOURCES

### Database

Dyfed Archaeological Trust Historic Environment Record

National Monument Records for Wales, housed with the Royal Commission on the Ancient and Historical Monuments of Wales, Aberystwyth.

### Published

Bick, D.E. 1974 *The Old Metal Mines of Mid-Wales. Part 1 Cardiganshire – South of Devil's Bridge*. The Pound House, Newent.

Burt, R., Waite, P & Burnley, R. 1986 *Mines of Cardiganshire*. University of Exeter.

Dawson, R. 1820., *Ordnance Survey original surveyors map – Hafod, Llanidloes*

Cadw. 1998. *Register of Landscapes of Outstanding Historic Interest in Wales*. Cardiff: Cadw

CIfA. 2014. *Standard and guidance for historic environment desk-based assessment*. Available at:  
[http://www.archaeologists.net/sites/default/files/CIfAS%26GDBA\\_3.pdf](http://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_3.pdf)  
[Accessed 14.02.2023]

Foster-Smith, JR. 1979. *The Mines of Cardiganshire. British Mining No.12*. Sheffield

Hague, D.B. 1984 *A Guide to the Industrial Archaeology of Mid-Wales*. Association for Industrial Archaeology.

Hughes, S.J. 1976 *Cardiganshire – Its Mines and Miners*. Talybont.

Hughes, S.J. 2004 'Mining Water Power Leats in Wales' in *Mining History Vol.15 - Water Power in Mining* (P Cloughton (Ed.)

Jones, O.T. 1922 *Memoirs of the Geological Society, Vol.XX – Lead and Zinc. The Mining District of North Cardiganshire and West Montgomeryshire*. London

Liscombe & Co. c.1869-70 *The Mines of Cardiganshire, Montgomeryshire, and Shropshire*. Liverpool.

Meyrick, S.R. 1810. *The History and Antiquities of the County of Cardigan*. London  
Ordnance Survey, Historic edition 1:2500 maps, Cardiganshire

Spargo, T 1870 *The Mines of Wales: Their Present Position and Prospects*. Simon Hughes reprint 1975.

Welsh Government. 2017. *Planning Policy Wales: Technical Advice Note 24: The Historic Environment*. Cardiff: Cadw. Available at:  
<http://gov.wales/docs/desh/policy/170531tan-24-the-historic-environment-en.pdf>  
[Accessed 14.05.2020]

Welsh Government. 2017a. *Setting of Historic Assets in Wales*. Cardiff: Cadw. Available at:  
<http://cadw.gov.wales/docs/cadw/publications/historicenvironment/20170531Setting%20of%20Historic%20Assets%20in%20Wales%2026918%20EN.pdf>  
[Accessed 14.05.2020]

## Unpublished

Krishan, A 2022 *The Lisburne Mines: Desk Study & Site Walkover Survey*. ARUP Report for NRW 290022-ARP-LI-00-RP-NX-0006

Poucher, P. 2023 *Level Fawr & Glog Fach, Pont Rhyd y Groes, Ceredigion: Historic Environment Desk-Based Assessment*. DAT Report 2023-11

Protheroe-Jones, R. 1993 *Annotated surface plan of mine with notes*.

Pyper, A. 2005. *Tir Gofal Management Plan: Heritage Management Information (HE2) prepared for Llethr 2004/104*. DAT Report PRN 47323

Sambrook, P & Ramsey, R. 1998 *Mediaeval or Later Deserted Rural Settlements in Mid-West Wales: Report on the 1997-98 Survey*. Cambria Archaeology (DAT) Report PRN35605

Sambrook, P. 2002 *Metal Mines Project 2002: Interim Report*. Cambria Archaeology (DAT) Report 2002/46

RAF. 1946/1947 Vertical aerial photographs in the Dyfed HER.

## Websites

Google Earth Maps satellite imagery.

British Geological Survey mapping portal. Available at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [Accessed 15.02.2023]

Natural Resources Wales LiDAR Composite Dataset. Available at: <http://lle.gov.wales/Catalogue/Item/LidarCompositeDataset/?lang=en> [Accessed 15.02.2023]

Portable Antiquities Scheme. Available at: <https://finds.org.uk/> [Accessed 15.02.2023]

Welsh Tithe Map. Available at: <https://places.library.wales/> [Accessed 15.02.2023]

## Archives

### The County Archives, Aberystwyth

T/AMP Abandoned Mine Plans: Glog Fach (XVI NE)

- 75. Section, n.d.
- 76. Plan, 1871
- 77. Plan, n.d.
- 78. Section, n.d.
- 79. Section, 1861.

### National Library of Wales Archives

Lisburne (Glogfawr and Glogfach), East Darren and Cwmystwyth royalty return. 1885-1887

- Royalty returns due upon ore sold by John Taylor and Sons from the Lisburne mine (Glogfawr and Glogfach), East Darren and Cwmystwyth, Cardiganshire, 1885-1887.

Lisburne Mines [graphic]: East Glogfach Section / J. Allen Garland. 1891

- Plan & section of latter workings of Glogfach, showing shallow adit, Taylor's shaft & datum line.

Lisburne Development Syndicate Ltd [cartographic material]: East Glog-Fach Mine. 1907

- Survey diagram showing 15Fm level, adit and adit x-cut. Possible intersections of mineralisation.
- Preparatory pencil sketch showing shaft, levels & ?surface.

John Sheldon, Aberystwith, to [Thomas] Kyffin, Pontrhydagrose,. N.p., 1824. Print  
D L Thomas Collection of mines in Mid-Wales [graphic] / D. L. Thomas. 1973-1975

- 106-116 Glog-Fawr [Ysbyty Ystwyth]; 117-122 Glog-fach mine [Ysbyty Ystwyth]

