

# **HERITAGE** **RECORDING SERVICES WALES**

## **The Old Engine House, Llanfyrnach, Pembrokeshire.**

### **Archaeological Standing Building Recording**



By  
**Richard Scott Jones (BA Hons, MA)**



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**HRSW Report No: 102**

**On behalf of:**  
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### Copyright Notice:

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### **THE INSTITUTE OF FIELD ARCHAEOLOGISTS (IFA)**

*Standard and Guidance for an archaeological investigation and recording of standing buildings or structures*

#### **The Standard**

A programme of archaeological building investigation and recording will determine, as far as is reasonably possible, the nature of the archaeological resource associated with a specified building, structure or complex. It will draw on existing records (both archaeological and historical sources) and fieldwork. It will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the *Code of conduct*, *Code of approved practice for the regulation of contractual arrangements in field archaeology*, and other relevant by-laws of the IFA. The programme will result in the production of drawings, an ordered accessible archive and a report.

#### **Definition of archaeological building investigation and recording**

The definition of archaeological building investigation and recording (ABIR) is a programme of work intended to establish the character, history, dating form and archaeological development of a specified building, structure, or complex and its setting, including buried components, on land, inter-tidal zone or underwater.

#### **Purpose of archaeological building investigation and recording**

The purpose of ABIR is to examine a specified building, structure or complex, and its setting, in order to inform:

- ◆ the formulation of a strategy for the conservation, alteration, demolition, repair or management of a building, or structure, or complex and its setting

or

- ◆ to seek a better understanding, compile a lasting record, analyse the findings/record, and then disseminate the results.

*The Standard and Guidance for an archaeological investigation and recording of standing buildings or structures was formally adopted as IFA approved practice at the Annual General Meeting of the Institute held on 14th October 1994.*

## NON TECHNICAL SUMMARY

*Listed Building Consent has been granted by Pembrokeshire County Council for the conversion of the ruined 'Old Engine House', near Brick Row, Llanfyrnach, Pembrokeshire, into a residential dwelling. Heritage Recording Services Wales were contracted by Alan Thomas, Chartered Surveyors to undertake Standing Building Recording on the building prior to conversion as part of an archaeological condition.*

*The Old Engine or 'Boiler House' was formally part of the Llanfyrnach Silver-Lead Mine complex which ceased production in the late 19<sup>th</sup> century. Since this time the building fell into decay and is now roofless but with its chimney still intact. Since falling into decay the building has been used over the ensuing decades as a storage shed and has also been consolidated in places with the use of modern breeze block. This report details the archaeological Standing Building Recording of the Old Engine House prior to its conversion.*

### 1 Introduction

1.1 The Old Engine or 'Boiler House', near Brick Row, in Llanfyrnach in Pembrokeshire (*National Grid Reference: SN 226 316*) was granted Listed Building Consent by Pembrokeshire County Council on 11<sup>th</sup> May 2005. In order to comply to the consent however an archaeological condition was put into place, that, 'No site works shall be undertaken until the implementation of an appropriate programme of archaeological and building recording and analysis has been agreed in writing with the Local Planning Authority to be carried out in accordance with an agreed written brief and specification (Reason: To ensure the protection of items of archaeological importance).' (Condition 3 of Listed Building Consent - Planning Application No: 04/0020/LB).

1.2 An Initial documentary assessment of the 'Old Boiler House', Llanfyrnach, Pembrokeshire, shows that the building was part of the larger Silver-Lead Mine Complex of Llanfyrnach, c. 1752 -1890. According to an historical account by Peter Cloughton (Dept of History, Exeter, 1999), the Llanfyrnach Lead Mine site is relatively undisturbed - with no reworking of spoil or tailings - and is one of the better examples of a late 19th century silver-lead mine in South Wales. Although in a ruinous state it displays a wide range of 19th century mining and dressing technology underlying which will be evidence of 18th century working.

1.3 Presently, the 'Old Engine or Boiler House' is in an unroofed ruinous state, but still characterised by its well preserved tall chimney.

1.4 Heritage Recording Services Wales were contracted by Alan Thomas Chartered Surveyors, acting on behalf of their client, Miss P. Ducek, the owner of the Old Engine House, to undertake the required archaeological work. After consultation with the County Archaeological Trust, Cambria Archaeology, it was agreed that the level of recording required was to be a descriptive and a visual record in line with the Royal Commission on Ancient and Historic Monuments (RCAHM) Level II. It was also agreed that any ground works undertaken immediately surrounding the property be archaeologically supervised under Watching Brief conditions.

1.5 This recording work was undertaken on August 12<sup>th</sup> 2005 by Richard Scott Jones of Heritage Recording Services Wales. This report details the results of this work.

### 2 Aims and Objectives

2.1 The programme of archaeological work carried out on the 'Old Engine or Boiler House', Llanfyrnach, Pembrokeshire, was to investigate and record the building's remains in order to determine, as far as is reasonably possible, the nature of the archaeological resource associated with the building. The building recording drew on existing records (both archaeological and historical sources) and fieldwork. It was undertaken using appropriate methods and practices which satisfied the stated aims of the project, and

which complied with the Code of conduct, Code of approved practice for the regulation of contractual arrangements in field archaeology, and other relevant by-laws of the IFA.

2.2 The purpose of the archaeological building investigation and recording is to examine the building, and its setting, in order to inform the formulation of a strategy for the conservation, alteration, demolition, repair or management of the building, and in the process, seeking a better understanding whilst compiling a lasting record wherein the results may be analysed.

### **3 Methodology**

3.1 The proposed programme of archaeological works will abide to the Royal Commission on Ancient and Historic Monuments (RCAHM) *Recording of Historic Buildings*, Level II. This is both a visual and a descriptive record.

3.2 Both exteriors and interiors of the building were seen, described and photographed. The examination of the building produced an analysis of its development and use. The record includes the conclusions reached, but does not discuss the evidence on which the analysis is based. A plan of the building has been produced to a standard acceptable for any possible future publication.

3.3 The written account summarises the buildings plan, form, function, age and development sequence. As well as this written account pertaining to the building itself, a brief historical account of the Llanfymach Lead-Silver Mine Complex has also been included so as to put the building into historical context.

3.4 The Drawn Record was undertaken by mechanical means in the form of Rectified Photography, however where this was not possible, traditional (hand) drawings were made. The scale of the drawings was undertaken at 1:100. Drawings include annotated plans of all exterior elevations showing significant features. Where appropriate, interior elevations have also been included. A floor plan was also undertaken showing the form and layout of the building.

3.5 The Photographic Record included photographs of all elevations internal and external and general photographs of the building from viewpoints highlighting certain significant features and details of the building and its setting, where readily accessible. The photographic record was undertaken using 35mm format (colour transparency, black & white) and digital format (TIFF files at 6 mega-pixel resolution).

3.6 All phases of the archaeological work were carried out by a qualified member of Heritage Recording Services Wales using proven archaeological recording techniques. Finalised drawings were undertaken using Adobe Illustrator software.

### **4 Historical Background**

4.1 The following historical account has been taken and adapted from Peter Claughton's (Department of History Exeter University) research on Llanfymach Silver-Lead Mine c.1752 – 1890.

4.2 The Llanfymach Silver Lead Mine is situated on either side of the Afon Taf 650 metres north east of Llanfymach Parish Church, near Crymych, and is partially within Clydey parish at NGR SN 225316. Prior to the 19th century there were in fact two mines as ownership was divided between Maurice Morgan, to the east of the river - the Llwynceilyn mine - and the Lloyd family - Llandre - to the west. Soon after 1802, and death of Morgan, ownership was consolidated when the Lloyds bought the land east of the river.

4.3 A number of west to east and north-west to south-east trending fault fissure veins or lodes carrying lead/zinc mineralisation have been worked to a depth of 520 metres below river level in the Bala Beds. The veins are near vertical - those trending north-west to south-east having a slight underlie to the west. Lateral displacement of the veins has occurred in a number of places through the action of what appears to be post-mineralisation faulting, ie. crosscourses or 'slides'. The principal economic minerals present are galena (lead sulphide), cerussite (lead carbonate) and sphalerite (zinc sulphide). Enhanced silver levels were present in the oxidised zone, the weathered parts of the veins above the water table, but the silver content of the galena found in depth was insufficient to justify refining before new techniques became available in the mid 19th century.

4.4 There may have been mining on the site in the 16th century. In 1542 the right to mine silver-bearing ores in Wales and the Marches was granted by the Crown 'in consideration that a mine of lead ore holding silver has been found at Kynmorthie in the lordship of Emlyn' (See Appendix 1). As the only known occurrence of silver-lead ores in the lordship of Emlyn is at Llwynycelyn, the eastern part of the Llanfyrnach Mine, there is a strong possibility that this was the site of that discovery.

4.5 By 1752 the minerals under Llandre, on the Llanfyrnach side of the river, owned by James Lloyd were being worked when a section of the mine was set on tribute to a partnership of local miners. Lloyd's efforts to work the Llandre mine himself were short-lived despite an injection of capital from a relative, Thomas Lloyd of Cardigan, and a report and plan dated 1764 suggest the involvement of Cornish adventurers.

4.6 All our evidence so far has been for the Llanfyrnach side of the river. The minerals on the Llwynycelyn side were probably being worked in the 1740s and 50s but it is not until 1771 that we have clear information with a lease to a local group led by Lord Milford. In the following year a lease of the Llandre minerals was taken by adventurers from Derbyshire area and in 1773 the workings on both sides of the river were brought under the control of a single partnership when the local group and the Derbyshire adventurers combined their interests.

4.7 The Derbyshire adventurers withdrew in 1776 leaving the mine under the control of Lord Milford's group who continued to work it effectively until about 1791. Drainage had evidently become a major problem at about that date as the mine probably reached the effective working depth of the available pumps. Taking the mine below the water table would have meant a declining return in silver from the lead ores raised - an assay carried out in 1789 suggested that the silver content would not pay the cost of refining - and, even with lead prices touching £20 per tonne, the cost of improved drainage could not be justified without the enhanced revenue from silver. Milford's group retained control of the mine after working ceased in 1793. They may have entertained the idea of a new pumping engine after lead prices rose to nearly £40 per tonne in 1808 but had withdrawn altogether by 1810.

4.8 Despite attempts at reopening them in the early part of the 19th century, it was not until the mid 1840s that the mine was again in work. A new waterwheel was erected by 1844 and had drained the mine sufficiently to allow investigation below the 'old levels.' Steam power was introduced for pumping in 1855 - a portable engine installed at No. 2 shaft - and it is evident that work was concentrated on the Llwynycelyn section of the mine. T D Lloyd, the landowner, evidently had a hand in the reopening of the mine but had, by 1853, leased the mine to a working company. In 1858 a limited liability company - the Llanfyrnach Silver-Lead Mining Company Limited - was formed to take over the assets and continue working the mine. The company's capital came largely from the London area but perhaps the most active shareholder was Thomas Turner from Wolverhampton. He left his mark on the mine - the steam engine at No. 1 Engine Shaft on the Llandre side of the river was erected under his supervision and he was subsequently responsible for building the miners cottages at Brick Row.

4.9 With the installation of the pumping engine at No. 1 Shaft in 1860 the focus of mining had shifted to the Llandre section. The Llwynycelyn section was probably never worked much under the 22 fathom level below adit. As the productive veins were in the Bala beds which dipped towards the north they had to be followed deeper on the other side of the river. With hindsight the company's new pumping engine might have been better placed for they were soon obliged to install further pumps to the north-west, in Chain Shaft, in order to work the productive Gardners and Water Lodes. The increased cost of operations north of the river appear to have used up the capital available to the new company which commenced winding up in 1861 and the lease was transferred to Turner.

4.10 Chain Shaft was to be the principal working shaft throughout the 1860s - the vast dump of waste rock on the Llwynycelyn side of the river, south of No. 1 Engine Shaft, was all hauled up that shaft. By the time Turner relinquished the lease of the mine in 1871, and a new lease granted to Messrs. Lawson and Evans, the mine was being worked deep under the northern hill. Compressed air drilling had been in use since the late 60s - a relatively early use of the technique. It is difficult to know why Turner gave up the mine in 1871 - lead prices were relatively stable, if falling slowly, and the previous two years at the mine



had been the most productive to-date - although the dramatic fall in production in that year suggests some disruption. The loss of a productive ore body through faulting is a possibility - it was a relatively common occurrence at Llanfymach - and the high silver values returned at that time do suggest there had been some reworking in shallow parts of the mine.

4.11 That lead ore production failed to recover in the early years of Lawson and Evans' occupation does however highlight the technical problems at Llanfymach. The veins, being worked deeper under the northern hill, were displaced through faulting. Extensive unproductive prospecting work was required before the ore bodies on the Water Lode were recovered and production fell to virtually nothing during 1876 and 1877. Production rose rapidly in 1878 but continued haulage through Chain Shaft was impractical and a new working shaft was required. Work on the new North Shaft, sunk vertically to adit before following the underlay of Water Lode, was underway by 1880 and had reached the 48 fathom level below adit in 1883. Investment in North Shaft was justified by the increased production from the Water Lode workings despite falling lead prices - the mine earned a maximum of £14,577 from lead ore sales in 1880 - although these were supplemented in the late 1880s by sales of zinc ores, the price of which was steadily rising.

4.12 Despite the discovery of the productive ore bodies worked in the 1880s, prospecting continued with a view to increasing the ore reserves. Crosscuts were driven either side of Water Lode in search of parallel veins. The Chain Shaft and New Lodes were cut in crosscutting from near North Shaft but neither appear to have proved productive. A new shaft was commenced in 1883 - possibly the unnamed shaft 150 metres north of North Shaft - but with no evidence of new discoveries. Older sections of the mine were also re-examined - the report of 1883 recommended new work south of the railway line at Llwynceilyn - resulting in the production of high silver-bearing ores in 1884 and 85.

4.13 Deep working of the Water Lode continued to be the mainstay of production into the late 1880s. So when that lode was again lost, due to faulting, it spelt disaster for the mine. After raising near 16,000 tons of lead ore and 764 tons of zinc ore in 32 years of continuous operations the mine finally ceased production in 1890.(14) The cost of draining the mine to a depth of 96 fathoms below adit whilst a long speculative search was made for new ore bodies was clearly beyond the capacity of the lessee. He had apparently requested a reduction in royalties on ore raised - suggesting that some low grade reserves were possibly available to support the search - but this was refused by the landowner. The mine was allowed to flood and the materials sold at auction in May 1891.

4.14 Water power was used virtually throughout the life of the mine. It was an essential element of motive power from the 1770s until closure in 1890. Steam power was introduced in the 1850s first to supplement water powered pumps but later providing all power for haulage and pumping.

4.15 Through much of the early life of the mine the haulage of ore and waste rock was effected by manual or animal power. For haulage on the deeper shafts horses were harnessed to a 'whim' - a wooden drum, supported on a frame, around which the haulage rope was wound. For the shallow shafts, and underground, a simple windlass would suffice.

4.16 The removal of water from the workings was an altogether heavier task. With much of the workings below river level, Llanfymach had a justified reputation as a wet mine. Early haulage of water, using buckets, ropes and a windlass, had been supplemented if not replaced by waterwheel powered pumps in the early 1770s. The move to mechanised pumping is marked by the lease, in 1773, of the Nantyweirglodd Corn Mill to the mineral lessees. Not that the lessees were going to use the mill but, by taking water from the river upstream of the mill, they were depriving it of its motive power and rendering it untenable. Shortly afterwards a leat was cut from the river 700 metres upstream to feed a wheel, to power pumps, on the Llandre side of the mines. Water was also drawn from the stream in the valley north of Cefn Ddu, on the Llwynceilyn side of the mine, and used to turn a wheel working the stamps .

4.17 Whilst there are regular references to the pumping wheel and the stamps in the mine accounts from the late 18th century, we are not sure of their exact location. However, it is almost certain that the pumping wheel was on the same site as that used in the 19th century. The masonry pit for a 40 foot diameter waterwheel still survives immediately west of No.1 Engine Shaft. This was erected in the mid 1840s and

was the primary motive power for pumping at Llandre. However, the limitations of water power were evident in summer, when there was often insufficient surface water to develop the power to required to drain the deepest parts of the mine, and in winter, when the surface water froze stopping the wheel completely. Water power was therefore augmented by the steam powered Cornish beam engine, with a 40" diameter cylinder, erected during 1860 in a masonry house at No.1 Engine Shaft.

4.18 Water power was also used in the 1840s and early 1850s to drive pumps on the Llwynycelyn side of the mine, in the No.2 Engine Shaft. There a 25 foot diameter wheel, 60 metres south-west of the shaft, was fed with water from the stream north of Cefn Ddu via a leat and aqueduct, and power transmitted to the pumps in the shaft by flat-rods. The problem of a surface water shortage was alleviated to some extent by a storage pond on the stream upstream from the abstraction point. Nevertheless, a portable steam engine, with its boiler in the building adjoining the surviving round chimney 24 metres north-east of the shaft, was in use at No. 2 shaft in the late 1850s (*this is a reference to the 'Old Engine or Boiler House' under investigation*). It is clear that the two sections of the mine, either side of the river, were not connected below the 14 fathom level - hence the need for separate pumping arrangements.

4.19 As working of the mine was focused on deeper deposits north of the river the need for pumps at Llwynycelyn was sidelined - the portable engine was probably in use elsewhere on the mine but the waterwheel was still in situ, and probably capable of being worked, as late as 1883. Pumps were installed in Chain (No.4) Shaft, to facilitate working below the 22 fathom level, in 1860 as No.1 Engine Shaft was sunk no deeper than that level and, if it were, the length of the drainage levels required to reach the rich ore bodies in the lodes under the hill would be prohibitive both in cost and time required to drive them. The name given to the shaft suggests that the pumps were linked to the engine at No.1 Shaft by a chain.

4.20 Haulage was mechanised in the 1850s and 60s with 'drawing machines' attached to the waterwheels on both sides of the river. Such machines comprised a wooden drum, around which the haulage rope or chain was wound, connected to a gear on the wheel by means of a clutch mechanism allowing the drive to be disconnected or reversed as required. Much of the waste rock dumped south of the river was hauled up Chain Shaft by this method.

4.21 When North Shaft was sunk in the 1880s new means of pumping and haulage were required, and steam power was the only real option. A large engine house was erected a short distance north-east of the shaft to accommodate a horizontal cylindered winding engine - probably the double 10" engine listed below - used to wind ore and materials on a double skip way in the shaft. Immediately to the south-east of the shaft was a smaller house for another horizontal engine, this one connected to the pumping rods in the shaft. The pumps themselves were set in a number of lifts down to below the 96 fathom level. At the bottom of the shaft was a bucket, or suction lift, pump discharging its water into the cistern for a plunger pump which forced the water up a 'rising main' to discharge into the cistern for the next lift, and so on until the final lift discharged into the adit allowing free drainage to the river.

4.22 The final sale of plant shows that there had been considerable investment in the latest technology to increase output and compensate for the falling price of lead. It provides a catalogue of steam power available at closure- Several boilers, 28 feet by 6 feet and 18 feet by 5½ feet; Cornish engine, 40" cylinder, 8' 6" stroke; Double 10" winding engine, 2' stroke, with two winding drums; Horizontal engine, 10" cylinder, 12" stroke, with pumping gear; Winding engine 17" cylinder, 2' stroke, with winding drum; Double Robey 12" cylinder engine, with pumping gear; Portable engine; Locomotive boiler by Robey; Blast fan, driven by 6" engine;

4.23 But water power still had its place at the mine, as testified by the sale catalogue - Turbine; This turbine was probably used to power machinery on the dressing floors and had been installed 'before 1886'.(20) To provide a sufficient head to drive the turbine water had to be drawn from the Gafel near Rhyddau and channelled by culvert under the high ground, through Hermon, to storage ponds on the hill to the west of the mine. From the ponds water was run across the hill to a header tank and into a 12" diameter cast iron feed pipe descending the hill, passing under the spoil from North Shaft, to the lower part of the mine(CLAUGHTON

4.24 For reference, a portion of the Ordnance Survey First Edition 6 inch map, dated 1898, showing Llanfymach Silver-Lead Mine has been included (see Fig ?). Also included is copy of a plan by Peter Claughton based on the same early OS map, but annotated with interpreted buildings of the former Llanfymach Mine Complex.

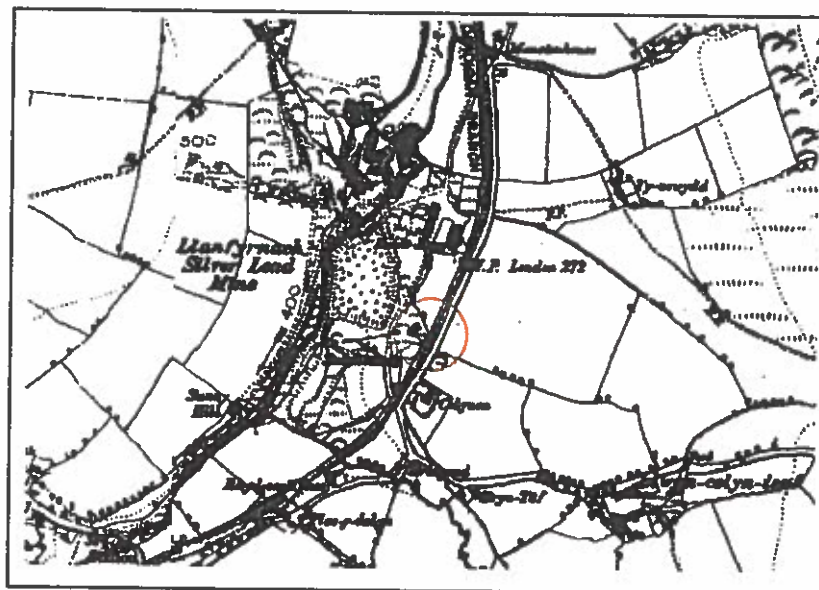


Figure 2. Portion of OS 1<sup>st</sup> edition map of 1898 showing Llanfymach Silver Lead Mine Complex (Old Boiler House highlighted in red).



Figure 3. Peter Claughton annotated plan of Llanfymach Silver Lead Mine Complex. (Boiler House highlighted in red).

## 5 Results of Building Recording

### *General Description of Standing Building*

5.1 At the time of the field visit, the 'Old Engine House or Boiler House', at Llanfyrnach was unroofed and in a ruinous state, but still with the well preserved remains of its standing stone-built Chimney. The building is aligned NE-SW with its chimney at the far north-western corner. In total the building is approx. 13.5m in length x 4.2m in width. The standing walls vary from between approx. 3m – 3.5m at the rear NE. The still standing chimney stands approx. 8.2m in height with an approx. 2m radius at its base. Unfortunately the floor of the building has been concrete scree covered. The building remains stand in a cleared area surrounded by overgrowth. Toward the rear NE of the building a cross-section of stratigraphy is exposed giving an insight into the industrial past of the mine in this particular area.

#### 5.2 i) *North-west facing elevation (Front – exterior)(see Fig 4)*

The North-west elevation is essentially characterised by the remains of the tall tapering stone built chimney at the buildings far northern corner, the remains of a single window west of the chimney and further west still, the remains of a 1.85m wide arched entrance with no door. This elevation was formerly the front of the building. This main wall is approx. 13.5m in length and stands to a height of approx. 3m. From approx. 1.5m west of the single remaining window, all of the elevation has either, been recently re-pointed, consolidated or else rebuilt. East of the window, investigation of the stonework noted the remains of two iron pegs and a small approx.0.50m length of concrete strip, indicative of a former small lean-to attached. The base of the window opening still has the remains of a slate cill.

#### 5.3 ii) *North-west facing elevation (Front – interior)*

There are no further features visible on the interior of the north-west facing elevation that are not evident on the exterior of the wall, except for the small narrow opening to the chimney in the far northern corner of the wall. A description of this feature is included in the *Chimney* section below.

#### 5.4 iii) *South-east facing elevation (Rear – exterior) (see Fig 5)*

Similar to the front north-west facing elevation, the south-east facing elevation is also approx. 13.5m in length x 4.2m in width. This wall is characterised by the remains of a window opening approx. 1.07m wide with the base of the sill approx. 1m from ground level. The standing remains of this wall vary in height from between 3m – 3.75m. Halfway along the length of the wall, the standing height alters to an average height of approx. 2.5m. This level begins at a point where part of the wall terminates in a corner face, as if evidence of a former opening that formerly ran the length of the upper wall from this point onwards. Added to this, central to this area of the wall, there is also potential evidence of a square opening having been blocked in. This is only evidenced however by an area in the wall that has either formerly collapsed at some stage and then rebuilt or the stones re-stacked or else the outline of stones marks a blocked in feature, possibly even a former window, that reflected in form, the window in the front north-west facing elevation.

Also noted within the fabric of this elevation two several iron pegs and a series of concrete fixing strips indicative of a former lean-to.

#### 5.5 iv) *South-east facing elevation (Rear- interior)*

Other than the features already mentioned within the exterior elevation, no further features were evident within the interior of the wall.

#### 5.6 v) *South-west facing elevation (Side – exterior) (see Fig 6)*

The south-west facing side elevation is approx. 4.2m in width with standing remains reaching a maximum height of approx. 2.60m. This side elevation is characterised in the main by the remains of an arched window, approx.1.15m wide. The greater part of this side elevation has been rebuilt and the former standing remains have been consolidated. As well as recent re-pointing work, this recent repair work is evidenced by

the modern breeze block arch above the window opening, as well as the fact that the interior of the wall has also been *skinned* with modern breeze blocks. The only definite authentic feature within the fabric of this elevation is the remains of the slate sill and a blocked-in square feature located toward the lower southern corner of the wall. It appears that a wooden beam would once have been placed in this slot but has now been blocked in with a *friable* piece of slate. It is very likely that a similar wooden beam slot would also have been present in the lower northern side of this wall, but this is not present due to re-building work where the feature has been omitted.

5.7 vi) *South-west facing elevation (Side – interior)*

Other than the features already mentioned above for the exterior of this elevation, no other features were noted in the interior elevation. Much of this wall has been re-skinned in modern breeze block.

vii) *North-east facing elevation (Side – exterior) (see Fig 7)*

The south-west facing side elevation is approx. 4.2m in width with standing remains reaching a maximum height of approx. 4m and a lowest height of approx. 3m. Essentially this elevation is characterised by the blocking in of two square beam slots, formerly each approx. 0.40m square. It is likely that each of these slots held a wooden beam onto which the engine boiler was placed. A series of three iron pegs were also noted within this elevation. This elevation also clearly reveals that the chimney-stack is contemporary in date to the rest of the building as both stone-works are keyed into each other.

viii) *North-east facing elevation (Side - interior)*

Other than the features already mentioned within the exterior of this elevation, the investigation of the interior fabric noted no new features, apart from the remains of one rusting cast iron supporting plate in the lower left hand corner located above the blocked in beam slot. Worth mentioning is the remains of an old roof line, likely post dating the earlier roofline that appears to have been 1m above this roofline

ix) *Chimney (see Fig 4-6 and plates)*

The stone chimney-stack is in a very well preserved condition. It is approx. 8.2m in height and tapers inwards from its approx. 2m wide diameter base. Investigation of the chimney itself noted the presence of a series of put-log holes located approx. 5-6m up the length of the chimney. Within the interior the opening for the chimney flue is located at the corner of the interior of the north-west facing elevation. The opening slot is approx. 1.30m in height with the flue opening only approx. 0.40m x 0.30m.

## 6 Conclusions

The recording of the standing remains of the Old Engine House, Llanfyrnach managed to document the buildings state prior to development. In so doing a better understanding of the building and the compilation of a lasting record has been made, wherein the results may be analysed for future research.

## **7 Acknowledgements**

Thanks to Charles Hill at Cambria Archaeology, Llandeilo for his help and advice on the the building recording work. Also thanks to the Ducek's for allowing access to the site.

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## **APPENDIX I:** Figs & Illustrations

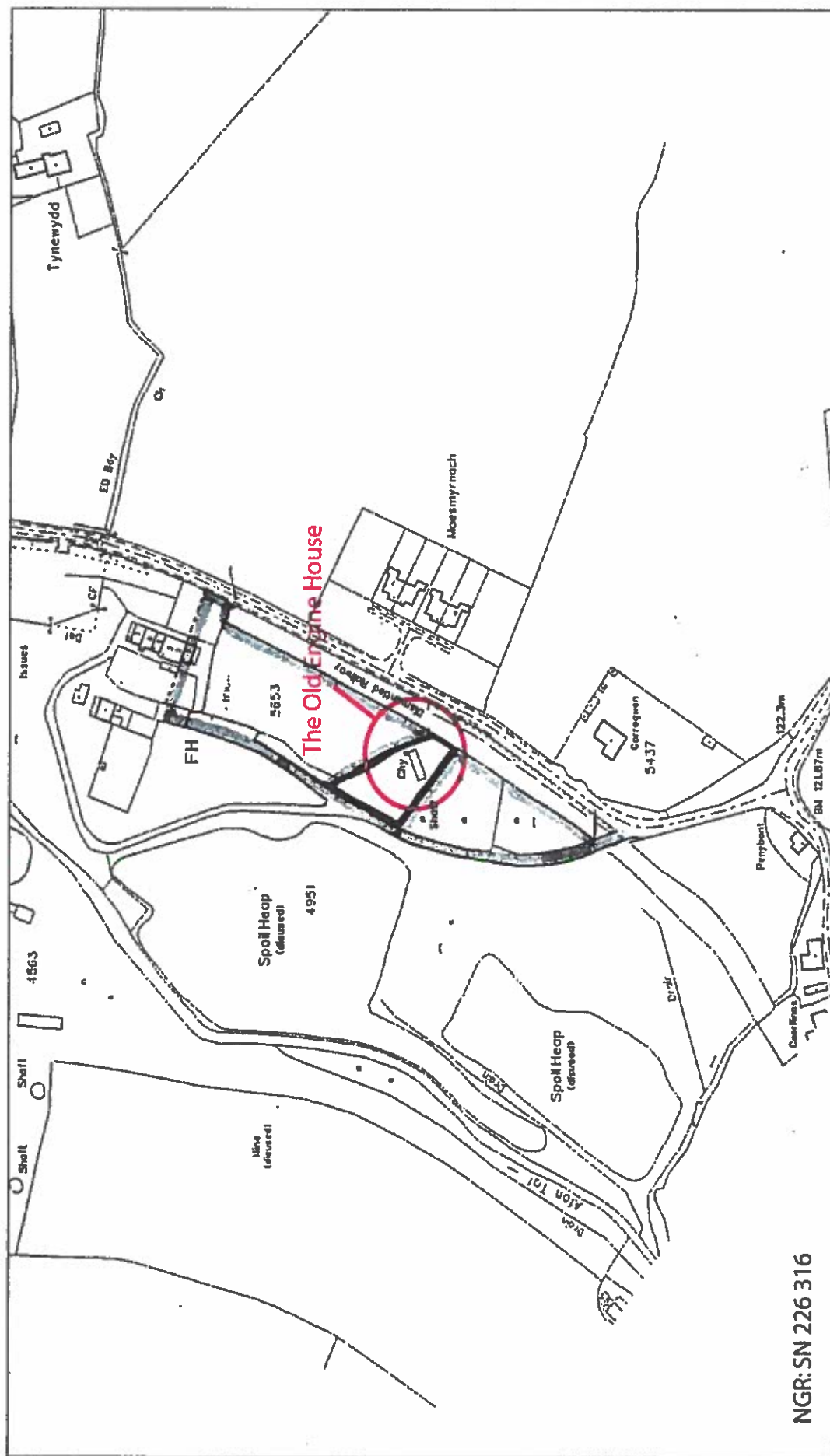


Figure 1 Location Plan of The Old Engine House, Llanfymach.



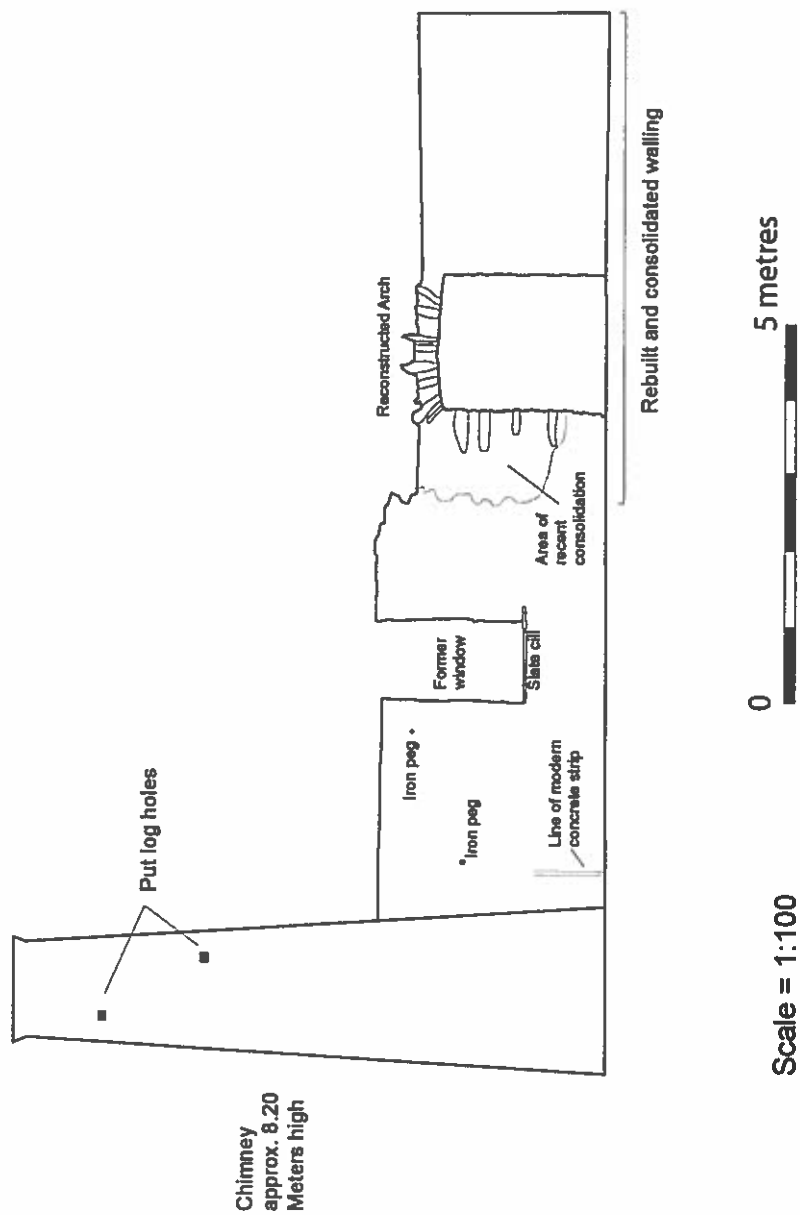


Figure 4. North West Facing Elevation

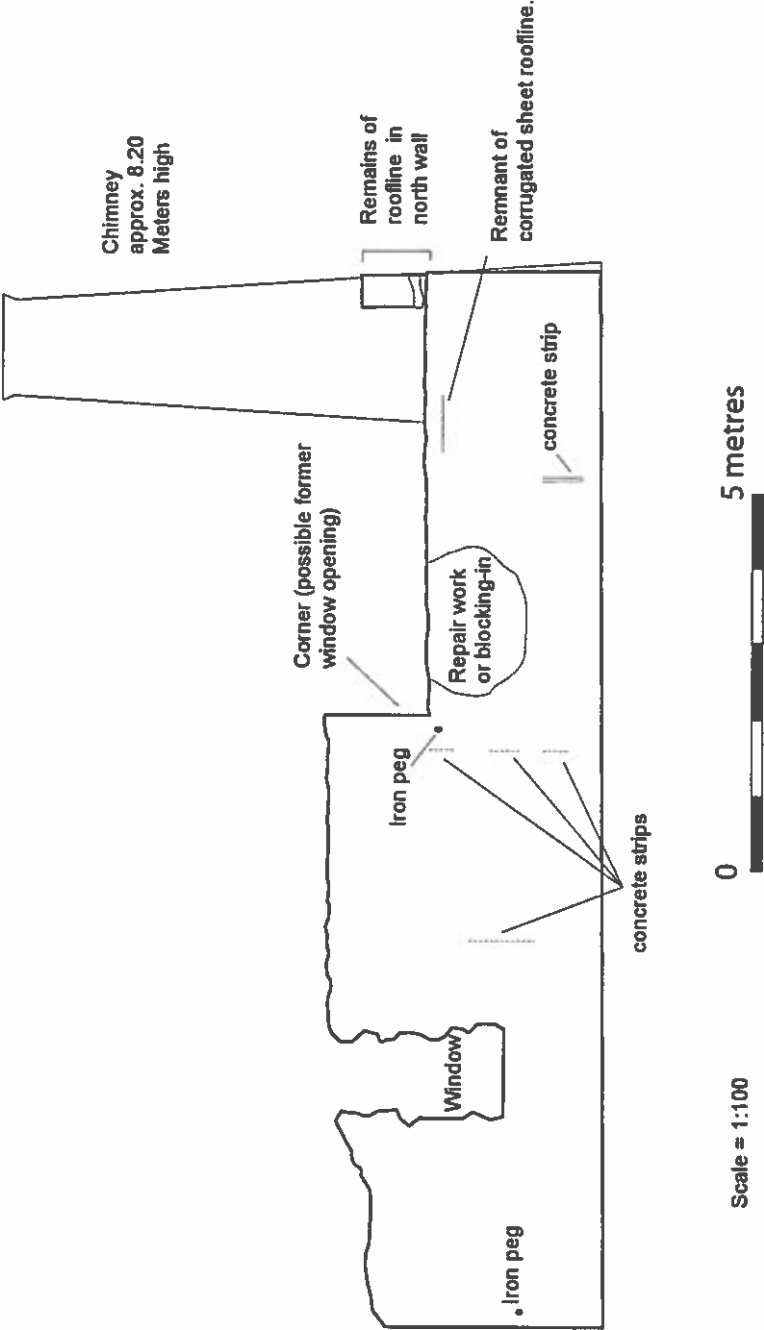


Figure 5. South facing elevation

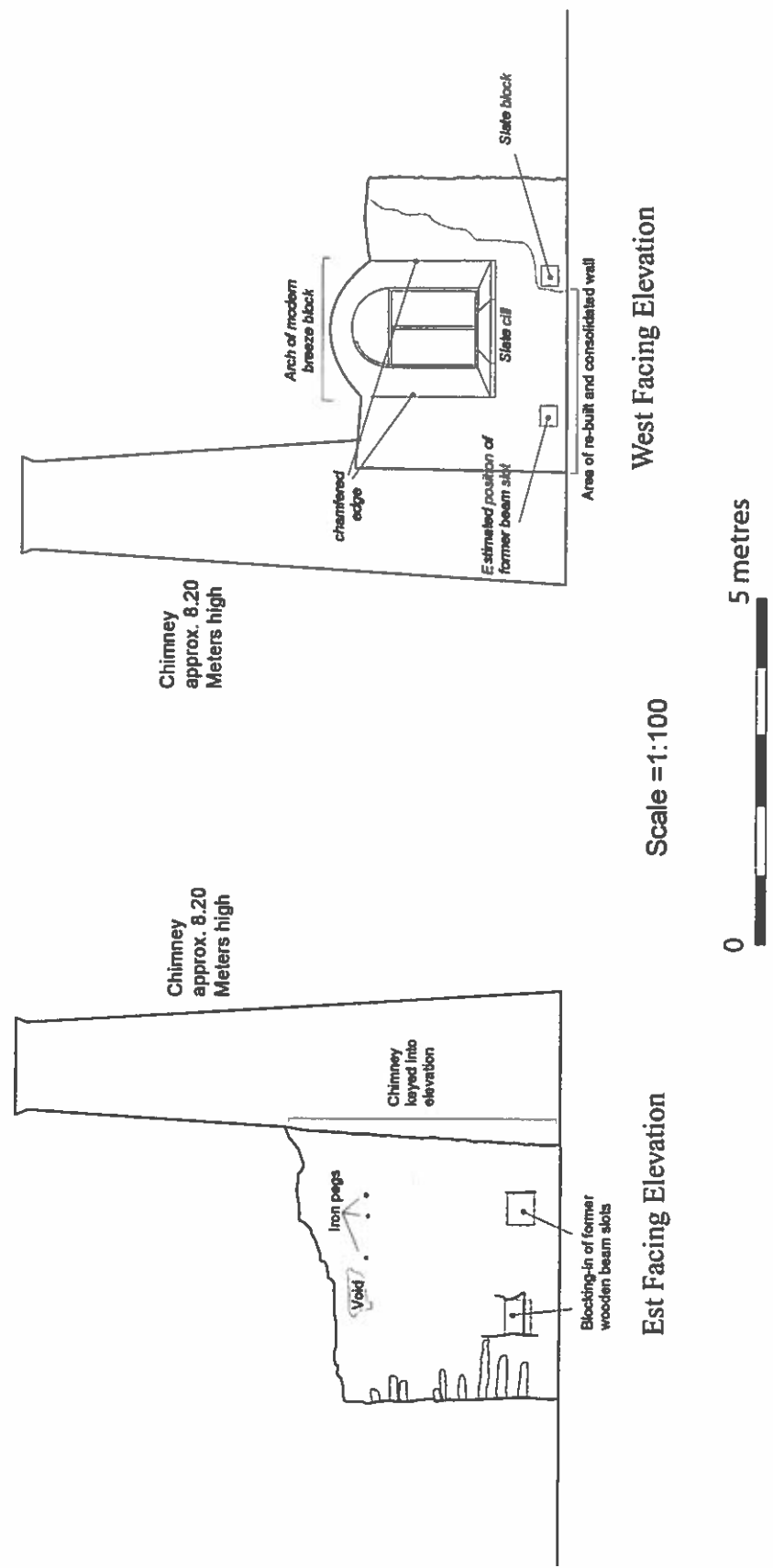


Figure 6. East and West Facing Elevations

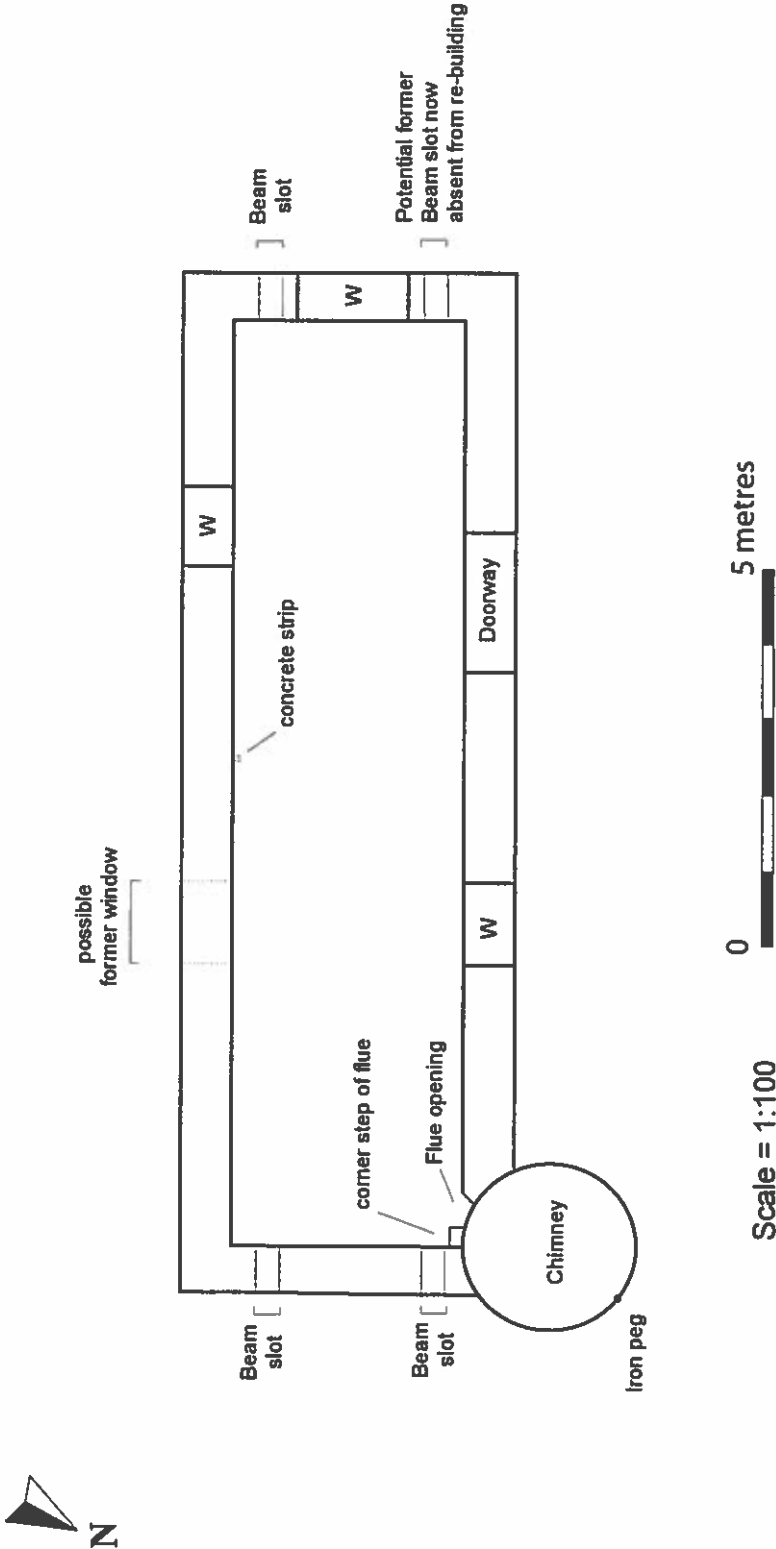


Figure 7. Ground plan of Old Engine House



## **APPENDIX II:** Photographic plates



*Plate 1. View of Old Engine House. Looking south.*



*Plate 2. North-west facing elevation and chimney.*





**Plate 3.** Northern end of north-west facing elevation.



**Plate 4.** Southern end of north-west facing elevation.  
Area of repair work and consolidation





*Plate 5. North-west facing elevation. Looking east.*



*Plate 6. North-west facing elevation. Looking south.*





*Plate 7. West facing elevation. Looking east.*



*Plate 8. South facing elevation. Eastern end. Looking northward.*



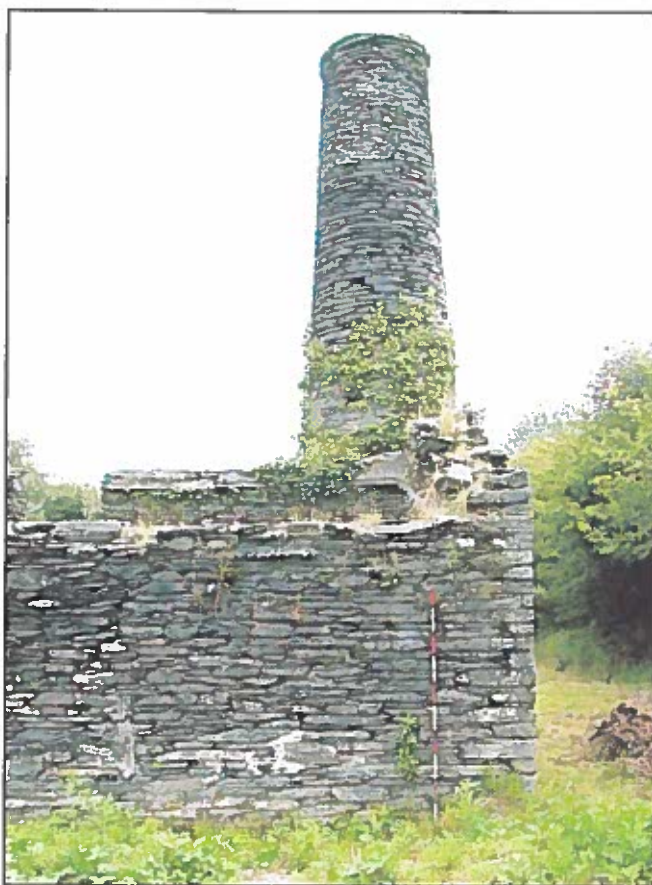


*Plate 9.* South-east facing elevation. Looking east.



*Plate 10.* South-east facing elevation. Looking westward.





*Plate 11. South-east facing elevation. North-east end.  
Looking north.*



*Plate 12. East elevation. Looking west.*





**Plate 13.** North-east wall interior. Note cast iron supporting plate at lower left hand corner.



**Plate 14.** Chimney flue opening within north wall interior.



*Plate 15. Interior of west facing wall*



*Plate 16. Interior of Old Engine House. Looking east.*



# **APPENDIX III:**

## **Archive Cover Sheet**



# ARCHIVE COVER SHEET

## The Old Engine House, Llanfyrnach, Pembrokeshire

### ARCHIVE DESTINATION – DAT, Llandeilo

Site Name:	The Old Engine House, Llanfyrnach
Site Code:	OEH/102/05
PRN:	
NPRN :	N/A
SAM:	N/A
Other Ref No:	HRSW Report No. 102
NGR:	SN 226 316
Site Type:	18 <sup>th</sup> /19 <sup>th</sup> Century Engine House
Project Type:	Building Recording
Project Officer:	Richard Scott Jones
Project Dates:	Aug/Sept 2005
Categories Present:	N/A
Location of Original Archive:	HRSW
Location of duplicate Archives:	DAT, Llandeilo
Number of Finds Boxes:	N/A
Location of Finds:	N/A
Museum Reference:	N/A
Copyright:	HRSW
Restrictions to access:	None

