PORTHGAIN SLATE QUARRY

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

Report Prepared by
Cambria Archaeology
For
PCNPA

REGISTERED ORGANISATION IFA

ARCHAEOLEG CAMBRIA ARCHAEOLOGY

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By

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SUMMARY

Pembrokeshire Coast national Park Authority are proposing to undertake consolidation works on some of the surviving structures associated with the Porthgain stone industries. The affected buildings are the massive crushed stone hoppers and their associated structures that dominate the west side of the harbour. The consolidation works will involve removal of vegetation and the replacement of areas of unstable brick, stone and ironwork.

The crushed stone industry developed out of the earlier slate and brickmaking industries. Evidence for all three of the industries survives in and around the harbour. The hoppers were constructed in phases sometime in the early 20th century, possibly between 1904 and c.1910, to store various grades of crushed stone. They and their associated structures, the crushing plant and supports for the feed chutes, are in reasonable condition, but there are areas of concern caused by vegetation growth, unstable brick and stonework and the corrosion of ironwork.

Urgent remedial works are required to consolidate the structures through a programme of vegetation removal and repair of the unstable structures. If this work is not carried out the condition of all the structures will continue to deteriorate and the collapse of some structures would be inevitable. Another consideration is the fact that the hoppers are located in a popular tourist destination and sit alongside part of the Pembrokeshire Coast Path, this means that in their current condition they are a potential health and safety risk for visitors.

1. INTRODUCTION

1.1 Project proposals and commission

Pembrokeshire Coast National Park Authority (PCNPA) are preparing to undertake a programme of consolidation and repair on some of the remaining structures of the Porthgain Slate Quarry, Porthgain, Pembrokeshire (SM81363255). The work is required because of concerns over their condition and stability.

The main surviving structures, the crushed stone hoppers, are part of a Scheduled Ancient Monument (Pe 382), which also includes part of the west side of the harbour, the tunnel that led from Porthgain Quarry to the harbour and Ty Mawr, the only surviving structure from the former brickworks. Therefore, a comprehensive archaeological programme is required to accompany the consolidation works. The programme consists of this desk-based assessment followed by building recording to be carried out during the consolidation works.

1.2 Scope of the project

This assessment has collated the existing information on the development and use of the slate quarries and the surviving structures in order to provide a framework for the building recording to be carried out during the consolidation works. One of the primary aims of this assessment has been to identify the constructional sequence of the buildings on the site so that where possible newly exposed sections can be assigned to a particular phase of use.

1.3 Report outline

This report describes the physical environment of the study area (Section 2) before summarising the archaeological resource (Section 3) and the likely impact of the proposed scheme on that resource (Section 4). Recommendations based on the results of Sections 3 and 4 are given in Section 5. Detailed supporting data are presented in a series of appendices.

1.4 Abbreviations used in this report

All sites recorded on the county Sites and Monuments Record are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR).

2. THE STUDY AREA

Porthgain owes its existence to the unusual geological combination of the area, where hot igneous rocks intruded through soft sedimentary shale metamorphosing it into harder slate. Fine blue clay formed around the interface of the two rocks (James 1997, 5). As well as the geological heritage the narrow northwest facing cove was sheltered enough to allow it to be developed into a small but effective harbour. The geology and harbour allowed three mineral based industries to be developed – slate quarrying, brickmaking and granite stone, especially roadstone.

The Porthgain hoppers and their associated structures that form the focus of this project occupy the west side of the harbour (centred on SM81363255) where they dominate the harbour and the village. They were constructed at the base of a low, steeply sloped cliff with a stone crushing plant situated on the cliff top above. It is the surviving hoppers and crushing plant structures that are to be cleared of vegetation and consolidated to enhance their long-term survival.

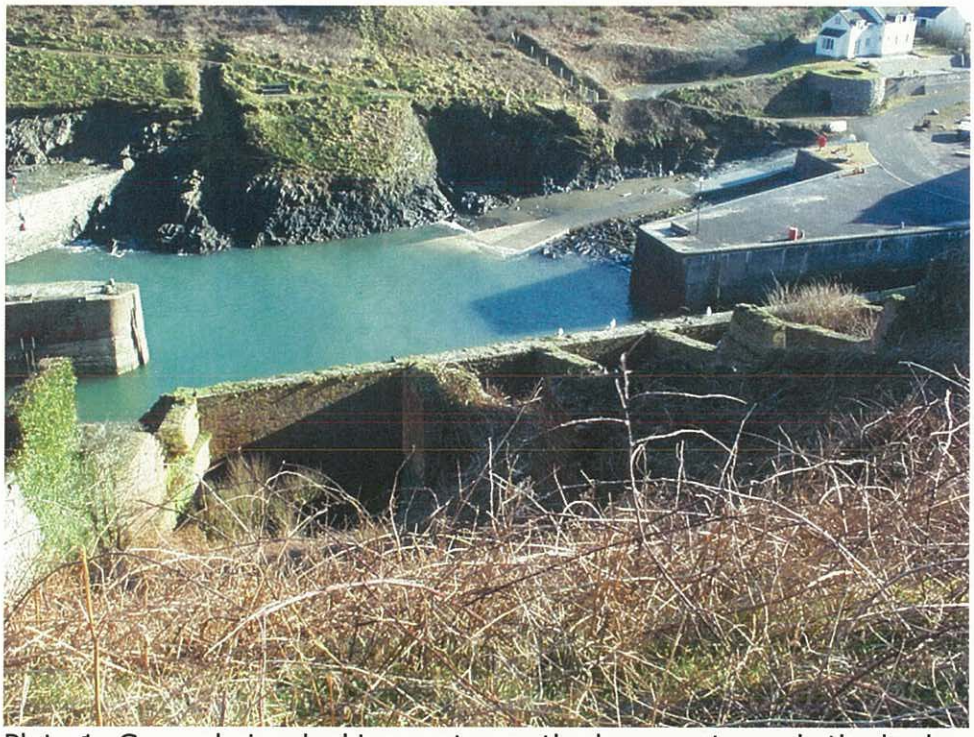

Plate 1: General view looking east over the hoppers towards the harbour.

3. SUMMARY OF THE ARCHAEOLOGICAL RESOURCE

> *'If you like history or archaeology, then this place is like a little heaven-on-earth for you' (Brintos and Worsley 1987, 110).*

Porthgain is synonymous with its industry, without which the village is unlikely to have developed to any extent. Prior to the development of the brick making and stone processing industries in the mid to late 19th century the village was a small fishing and trading harbour (James 1997, 5), with vessels presumably landing, loading and unloading on the beach. The name Porthgain consists of two elements: Porth = bay and gain, which may be derived from Cain and be either the lost name of the stream that flows through the village or a personal name (Charles 1992, 243). The village is shown as Porth-Gaen on 18th century maps (Charles 1992, 243; James 1999, 1), but had acquired its current spelling by the early 19th century (Charles 1992, 243).

Porthgain developed three main industries based on its geological inheritance: slate quarrying and processing; brickmaking; and crushed stone processing, all of which had varying influences on the development of the village and the surrounding landscape. Traces of all these industries survive in and around the village, with the most notable survivals being the harbour walls and the line of storage hoppers for the crushed stone along the west bank of the harbour. It is these hoppers and the associated structures on the cliff-top above that are to be the subject of the renovation works proposed by Pembrokeshire Coast national Park Authority.

Porthgain industries

Slate quarrying (c.1840-1910)

Slates have been produced in Pembrokeshire from the Roman period onwards (Roberts 1993, 138) and prior to the massive 18th and 19th century expansion of the North Wales industry the output from Pembrokeshire was equal to that of the North Wales counties (Richards 1998, 7). During the mid-19th century the Pembrokeshire slate industry was in fact employing large numbers of North Wales slate quarrymen, who had moved into the region with their families (Roberts 1993, 149).

Porthgain appears to have been exploited for its slate prior by the 1830s (Richards 1991, 223), but it was only from the 1840s onwards that production appears to have reached anything approaching industrial levels (Richards 1998, 40). Before the development of the Porthgain industry the small harbour was used as the shipping place for slates from the nearby Abereiddi Quarry. In 1840 or 1841 a consortium of London Businessmen – the Hill, Norman and Barclay Partnership – acquired the mineral rights to the cliffs on the western side of the harbour and began to quarry, process and export Porthgain slates (Richards 1998, 40; James 1999, 1; Lewis 2003, 3). In 1851 a tramway was built to improve the link between the Abereiddi Slate Quarry and the harbour at Porthgain (Roberts 1993, 145), although this was disused by the later 1880s as Porthgain Quarry became the principal source for slate.

Four years later a new lease was obtained and a new company, the Barry Island Slate & Slab Company, was formed (Richards 1998, 40). The company name was taken from the nearby farm, which owned the land on which the quarry was opened. Despite widespread advertising and control of their prices the company folded in 1860. The quarry was closed for two years before being reopened by

two businessmen who proposed significant investment and extensive building works. However, little seems to have been done and a few years later a new company, the St. Brides United Slate & Slab Company, was created by a local man, John Davies (Richards 1998, 43). By this time the company also included the nearby quarry at Trwynllwyd to its list of holdings.

Slate quarrying had ceased to be the dominant industry by the later 19th century as brick-making and more increasingly crushed stone became more viable. There are a number of significant remains from the slate quarrying period on the cliff top above the harbour.

Porthgain Quarry (PRN 24732)

The most obvious and spectacular survival of the slate industry is the massive and impressive Porthgain Quarry (Plate 2), which is almost as deep as it is wide. The quarry lies on the edge of the Pembrokeshire Coast Path and is currently fenced off to deter visitors from approaching the edge.

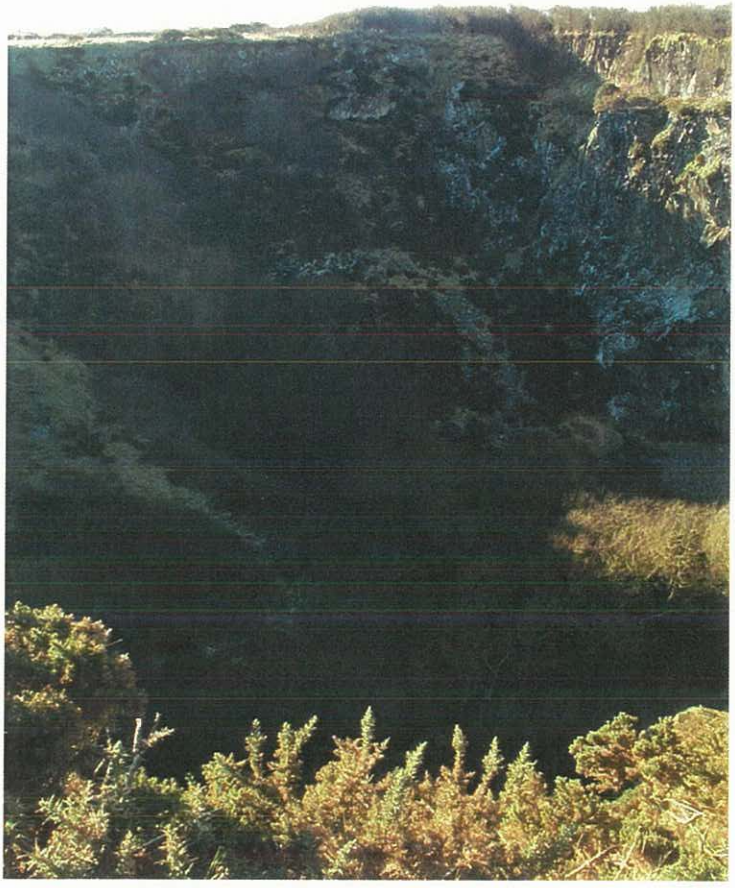

Plate 2: A general shot of the deep vertical face at Porthgain Quarry.

The quarry was developed during the last half of the 19th century and material was initially removed via a double incline on the north side and a single incline on the east side, which linked to a double incline down the steep cliff slope to the harbour (Fig. 2). The northern incline linked to a system of tramways on the cliff top and may have been used for removing waste as there are finger spoil heaps on the cliff tops to the north. The east incline delivered slates directly to the harbour and dressing areas. A tunnel led north from the quarry to the cliff edge,

marked as Aber Tunnel on the 1st and 2nd edition Ordnance Survey maps, to drain the workings, but this became obsolete as the quarry was excavated.

As the quarry became deeper the inclines may have been replaced by a system of overhead aerial cable trucks, known as a Blondin after the 19th century tightrope walker The Great Blondin (1824-1897) who was famous for being the first person to cross Niagara Falls by tightrope. The Blondin itself became obsolete when the quarry became too deep for its effective use. A tunnel was then built to link the quarry directly to the harbour and brickworks (see below).

Pen Top Terrace (PRN 24730)

An adjunct of the quarrying industry was the provision of worker housing, which included a row of seven or eight small slate-built cottages (Pen Top Terrace) on the cliff above the harbour and close to the quarry. The cottages originally had small garden plots and yards (James 1999, 5). Pen Top Terrace was constructed during the late 19th century, it is shown on the Ordnance Survey 1st edition map of 1889, but it had been partially abandoned by 1906. Some of the cottages were occupied until the late 1940s (Roberts 1998, 48), they have since been demolished (Plate 3).

Plate 3: The northern end of Pen Top Terrace, now little more than a few low overgrown stone walls and mounds of fallen rubble.

Engine shed

The remains of a brick-built locomotive shed (PRN 24728), constructed pre 1889, but abandoned by 1906, stand alongside a former tramway track, now a grass footpath, on the northwest edge of Porthgain Quarry. The shed had two railed bays and stands to its full height on its northeast corner (Plate 4).

Plate 4: Abandoned locomotive shed (PRN 24728) alongside a former tramway. The brick-built weighbridge office is visible in the distance.

Other structures

A number of other structures associated with the quarrying phase of the site survive in various states of disrepair on the cliff top, some as virtually intact structures, others as low vegetation mounds, some as low stone walls and others have no above ground trace. One of the best surviving is the small stone-built, single-arched bridge (PRN 24731 – Plate 5) over the incline to the east of the quarry.

Plate 5: Incline bridge (PRN 24731).

Brickmaking (c.1878-1931)

Brickmaking began at Porthgain in 1878 (Drew 1994, 7). A fine blue-grey clay, a by-product from the slate quarry, was recognised as suitable for brickmaking (James 1999, 2) and a brickworks was developed on the south side of the harbour. Only one building stands today, Ty Mawr, a Scheduled Ancient Monument (Pe.382), but prior to the closure of the brickworks 1931 it stood in the centre of a complex of buildings that included a kiln, drying sheds and an engine shed. An extensive system of tramways linked the works buildings with each other, the quarry and the railway. The other buildings were demolished soon after the closure of the works in 1931.

Several operations took place within Ty Mawr: the bricks were made there and it was the machinery shed for the works. A long drying shed was built against its southern gable and a boiler house and possible engine house located in a lean-to on its northern end (DAT 1992, 1; Drew 1994, 2). The kilns were located immediately to the east of Ty Mawr and a network of tramways served the entire complex. As the quarry deepened it was harder to extract the slate and the clay and a 150-yard (*c.*145m) long tunnel was constructed to bring the clay direct from the quarry to the brickworks (Richards 1998, 46).

Granite stone and crushed stone (c.1904-1940)

This was the last of Porthgain's three main industries to develop, but it is the one that has the greatest number of surviving structures, the most impressive of which are the hoppers constructed along the base of the cliff on the west side of the harbour to contain the various sizes and grades of crushed roadstone (Figs. 4 and 5; Plates 5 - 4). These still dominate the harbour and the village. The first hoppers were constructed from Porthgain bricks sometime around the turn of the 20th century as the slate working was being run down. The crushed stone industry developed out of the declining slate industry and by 1900 it had become the dominant stone industry. Granite 'debris' was being advertised by the then Porthgain Quarry owners – The United Welsh Slate Company – in the early 1890s (Richards 1998, 46), but it was about a decade later that the crushed stone business really took off. In 1893 the company had been reconstituted as the Porthgain Granite, Slate and Brick Company, emphasising the three strands of the Porthgain stone-based industry. Following the failure of the company the Porthgain Quarries Ltd was formed in 1897 to salvage the business and in 1904 the Harbour Company was consolidated into the Porthgain Quarries Ltd. (Richards 1998, 48). It was probably during this period that the first of the hoppers and the associated crushing plant were built. Granite was bought from a series of small cliff top quarries at Pen Clegyr a short distance to the northwest of Porthgain.

The hoppers do not appear on the 1st edition Ordnance Survey map (sheet Pembs.VIII.SW), published in 1889, but hoppers 4-9 and 13-15 were present by the time the 2nd edition was printed in 1906 (Fig. 4). Hoppers 1-3 and 10-12 were added later. A 1909 plan of the stone bins (hoppers) at Porthgain (CRO[1] reference DB/7/653) showed a bank of eight hoppers, probably hoppers 4 – 11. Hoppers 2 and 3 were shown in detail on an undated plan of 'proposed new bins for chippings' (Fig. 5), which must have been post-1909 (CRO reference DB/7/676), although Hoppers 1 – 3 are shown in a photograph thought to have been taken *c.*1910 (photograph in Jermy, no date).

[1] Carmarthenshire Records Office, Carmarthen.

When hoppers 13 - 15 were constructed they were built over a former store shed and when hoppers 2 and 3 were added they were built over the site of a former weighing office. It is not known if either of these former buildings was standing when the hoppers were built, none of their fabric is visible within the present hopper structures, but some remains may survive below. Both the former buildings were shown on an undated plan of Porthgain Harbour that shows the brickworks but not the hoppers (Fig. 3 - CRO reference DB/7/648). Based on the 1st and 2nd edition Ordnance Survey maps of the harbour this plan appears to have been published sometime between 1889 and 1906.

The surviving structures

The hoppers and associated structures were surveyed in 2004 on behalf of PCNPA (ascend Cymru Ltd. 2004). The survey report (2004, 8) stated that the structures were in 'dilapidated and dangerous condition', but that 'specific repairs can be undertaken in order to significantly prolong their longevity'. The area containing the hoppers and associated structures is currently fenced-off to prevent public access. The structures on top of the cliff outside the fenced area are in various states of ruin, with most structures visible as low stone walls or low banks. One or two buildings survive to close to full height, although all are now roofless. Tramlines and railway lines are visible crossing the cliff top as slightly raised flat areas, which are in places utilised as footpaths.

In the following discussion the hoppers are numbered 1-15 from south to north. All structures are identified using the alphabetical system employed during the 2004 survey, Structures A - U (ascend Cymru Ltd. 2004).

Hopper 1 and associated structures

Hopper 1 (Structure A) was apparently constructed sometime around 1909-1910. It is separated from the main bank of hoppers by the line of a former incline (Plate 6). The feeding platform (structure D) and the piers (structures B and C) that supported the feed chute also survive on the slope above the hopper. All are brick built and the hopper has a concrete floor that slopes towards the harbour to allow the crushed stone to be gravity fed into the boats.

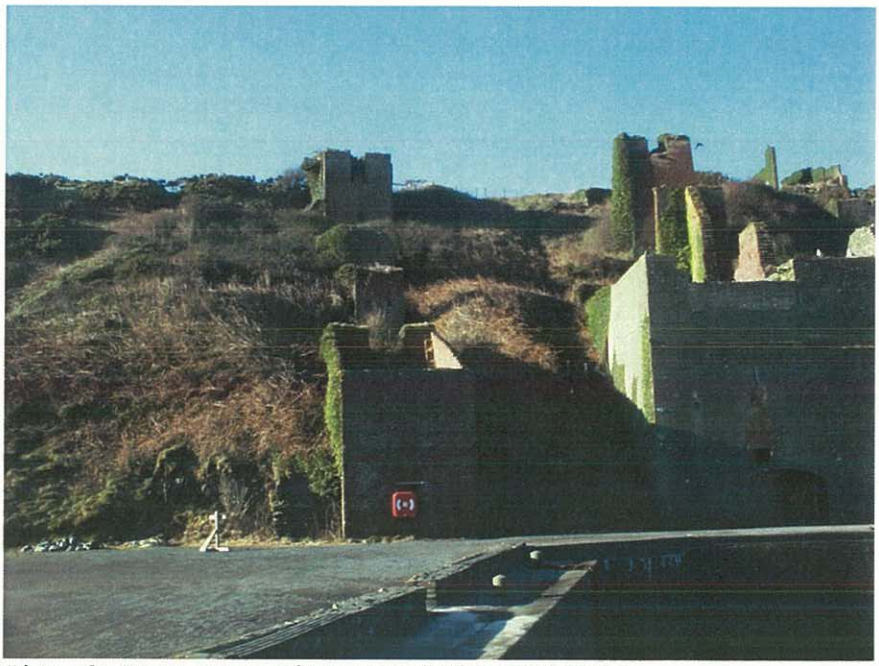

Plate 6: Hopper 1 and its associated structures.

Hoppers 2-12 and associated structures

Hoppers 2-12 (structure E) form the main bank of hoppers. It is the massive façade of these that dominates the harbour. The hoppers were built in at least two, probably three phases, with hoppers 4-9 constructed before 1906 and hoppers 10-12 being added before 1909. Hoppers 2-3 were added sometime around 1909-1910. Some of the phasing is apparent in the façade of the hoppers with the later hoppers (2-3) having a concrete east wall in contrast to the earlier brick built hoppers (Plate 7). The east wall of hoppers 4 and 5 appears to have been partially rebuilt in concrete when hoppers 2 and 3 were added. Hoppers 10-12 were created by extending the brick façade north to link with existing hoppers 13-15.

Hoppers 2 and 3 were constructed over the entrance to the tunnel leading from the quarry to the brickworks; they may also have been built over a former weighing office building (see Figs. 3 and 5).

The hoppers were formed by the construction of return walls that created parallel compartments, all with floors that sloped east towards the harbour to facilitate the gravity feed of the crushed stone to the boats. The openings for the loading chutes are all at floor level. Hopper 12 has an irregular shape as its north wall has been angled to fit with the curve of the cliff face and to allow it to line up with hopper 13.

Hoppers 2 and 3 were fed via a chute from the top of the cliff and the piers that supported the chute survive (structure F). Structure F consists of a substantial brick pier built on a large concrete foundation (Plate 7).

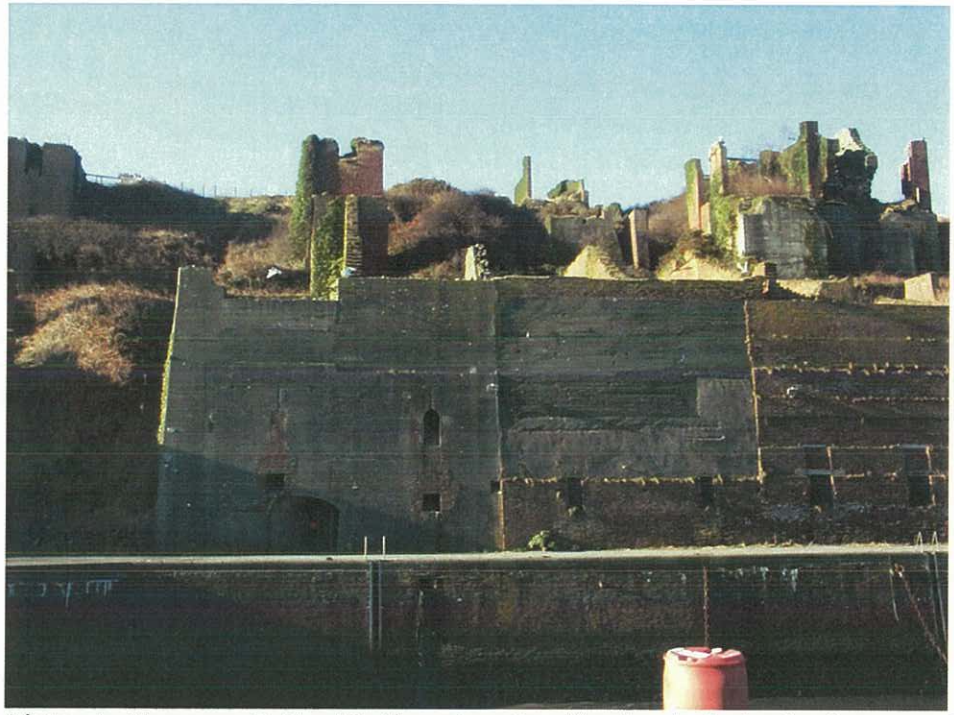

Plate 7: Hoppers 2-7 with the piers for the feed chute for hoppers 2 and 3 and the crushing plant (top right). The arched entrance to the tunnel that led from the quarry to the brickworks is visible at the base of the concrete wall.

Hoppers 4-12 were fed via chutes from the crushing plant above (structures G, J, L, M and N). Whilst it is difficult to be certain about the former functions of these

structural elements in their current condition, it appears that structures J and N were part of a platform and feed chute and structures G, L and M were part of the crushing plant (Plate 7). The crushing plant was fed from the cliff top by a raised tramway, which was faced and retained on either side by stone walls (Plate 8). The raised tramway was constructed to link the crushing plant to the tramway from the quarries at Pen Clegyr.

Plate 8: A view west along the raised tramway that fed the crushing plant. The disused engine shed in the background was associated with the quarry.

Hoppers 13-15 and associated structures

Hoppers 13-15 (structures S, T and U) form a northeast-southwest bank of hoppers, which were built into the curve of the cliff at the northern end of the harbour (Plate 9). They were constructed, sometime prior to 1906, over the site of a former store shed (see Figs. 3 and 4).

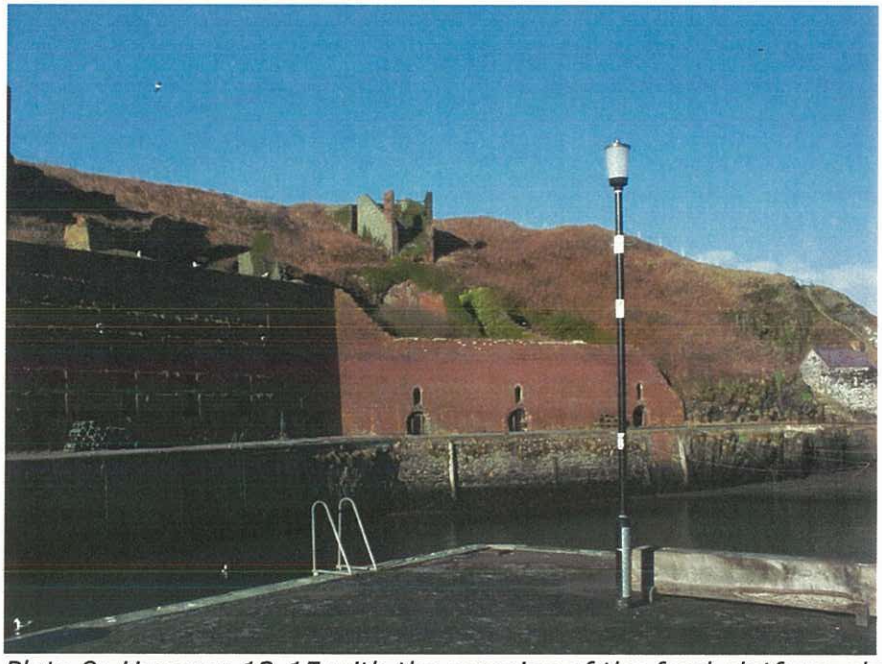

Plate 9: Hoppers 13-15 with the remains of the feed platform above.

It is not certain what, if anything, survives of the store shed below the hoppers. As with the other hoppers they were created by the construction of a main front wall and return walls built onto the slope of the cliff face, which also forms the rear wall. The floors of the hoppers slope to the southeast towards the harbour.

On the cliff top above the hoppers is a stone and brick built platform (structure K), which was used to tip the crushed stone onto the chutes to feed the hoppers below (Plate 10). The platform was serviced by a tramway on the cliff top that connected the hoppers with the tramway to the Porthgain Quarries at Pen Clegyr (Fig. 4). The tramway link to the hoppers was laid along a former path that went around the southern end of Pen Top Terrace (Figs. 2 and 4).

Is there anything visible of this tramway?

Plate 10: The feed platform for hoppers 13-15.

Conclusions

This desk-based assessment has examined existing information regarding the development and history of the Porthgain industrial remains. Even though it has concentrated on the stone hoppers and associated structures to be affected by the consolidation works, these cannot be viewed in isolation, as they are the final stage in the development of the three Porthgain stone-based industries that have governed the development of the village. The companies that established and operated the hoppers had grown out of a multitude of companies that at various times had also owned and run the quarry and brickmaking businesses. The hoppers are an impressive, physical expression of the flexibility of the companies to diversify and adapt to changing fortunes.

By the time the hoppers were constructed, probably between *c.*1904 and *c.*1910, the quarry at Porthgain had virtually ceased to operate and the operating company had turned to the sale of crushed granite bought from new quarries on Pen Clegyr. The hoppers were reasonably short-lived, only being used for around 30 years. In all the combined Porthgain industries survived for around 100 years.

4. THE SCOPE OF THE PROPOSED WORKS AND THE POTENTIAL IMPACTS ON THE ARCHAEOLOGICAL RESOURCE

4.1 consolidation works

In order to make safe and consolidate the structures it is necessary to remove vegetation from all of the structures, exposing details that in some cases may have been hidden for some time.

The vegetated areas of the structures are in many cases unstable and the removal of the vegetation may result in increased instability or loss of structural elements.

The consolidation works are varied and will include the removal and replacement of unstable brick and stone work on all structures, the clearance of rubble and debris from within some of the structures and the excavation of trial pits at selected locations (ascend Cymru Ltd. 2004, 15-19).

4.2 potential impacts

The removal of vegetation will render some areas unstable and original structural elements will be removed and replaced.

Overall the impacts will be low and offset by securing the long-term stability of the structures and by providing an opportunity to record those parts of the structures to be affected by the works.

4.3 programme of standing building recording (Fig. 6)

The recording will conform to best professional practice and consist of two main elements: a rapid photographic and, where necessary, sketch survey of those areas of the structures that will become exposed during the proposed vegetation clearance: and more detailed drawn and photographic recording of those areas to be significantly affected by dismantling and/or rebuilding works.

The hoppers and associated structures are a Scheduled Ancient Monument and Scheduled Monument Consent must be received prior to any of the works.

All structures – A rapid record will be made of those areas of the structures that will be exposed by vegetation clearance and/or affected by minor rebuilding works. The record will consist of photographs and sketch plans of significant architectural features. A record will also be made of those areas of any structures to be dismantled and repaired

Hopper 1 (Ascend Cymru Ltd. *Structure A*) and associated structures (Ascend Cymru Ltd. Structures B, C and D) – The sections of the hopper and chute support piers to be dismantled and rebuilt will be recorded prior to the works. The recording will consist of photography and measured drawings, backed up with site notes and descriptions to preserve by record the original fabric of the structure(s)

Hoppers 2-12 (Ascend Cymru Ltd. *Structure E*) and associated structures (Ascend Cymru Ltd. Structures F, G, J, L, M and ND) – Groundworks proposed for hoppers 5 and 11 (ascend Cymru Ltd. Hoppers 4 and 10) and to the rear of hopper 7

(ascend Cymru Ltd. Hopper 6) will be monitored and all exposed structures, features or deposits recorded to an appropriate and professional level[2].

The sections of the hoppers and crushing plant to be dismantled and rebuilt will be recorded prior to the works. The recording will consist of photography and measured drawings, backed up with site notes and descriptions to preserve by record the original fabric of the structure(s).

Hoppers 13-15 (Ascend Cymru Ltd. *Structure S*) and associated structures (Ascend Cymru Ltd. *Structure K*) – The rear wall of the hoppers will be recorded prior to the removal and replacement of a timber beam. The recording will consist of photography and measured drawings, backed up with site notes and descriptions to preserve by record the original fabric of the structure(s).

The sections of brick towers and east retaining wall of Structure K to be dismantled and rebuilt will be recorded prior to the works. The recording will consist of photography and measured drawings, backed up with site notes and descriptions to preserve by record the original fabric of the structure(s).

It is likely that the on-site works will reveal areas that require further archaeological recording. In such cases the affected area will be identified and Pembrokeshire Coast National Park Authority informed.

From your work, are any areas proposed for consolidation especially significant - are there any structures which need pointing out as requiring special care?

Worth highlighting that this work has clarified the sequencing to (hopefully!) allow features revealed on structures or in groundworks to be assigned to correct chronological phases.

[2] In order to ensure appropriate recording, adequate time must be made available to the visiting archaeologist to view the trial excavations in these areas.

Stress this – maybe a recommendations/concerns section?

PTO →

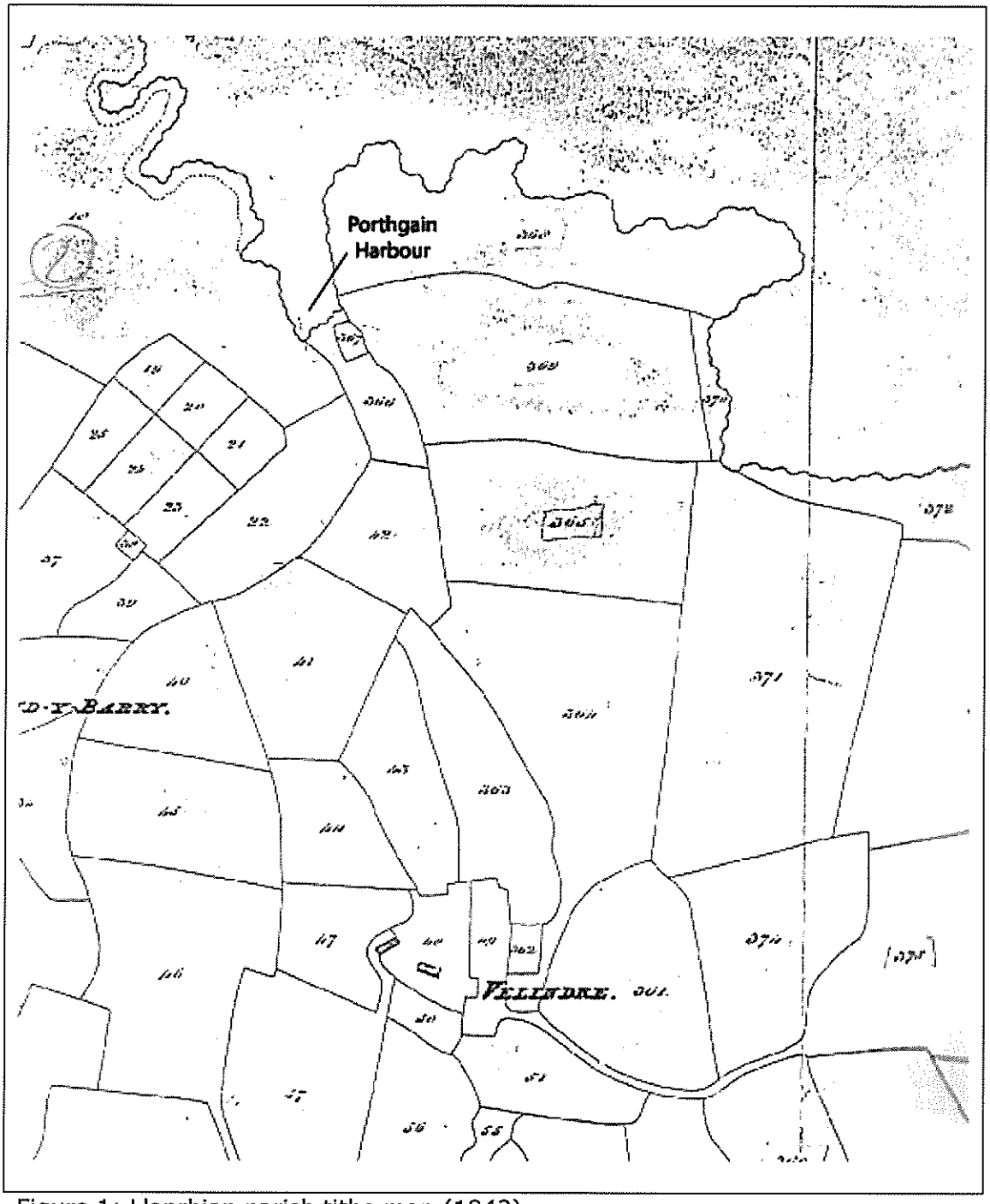

Figure 1: Llanrhian parish tithe map (1842).

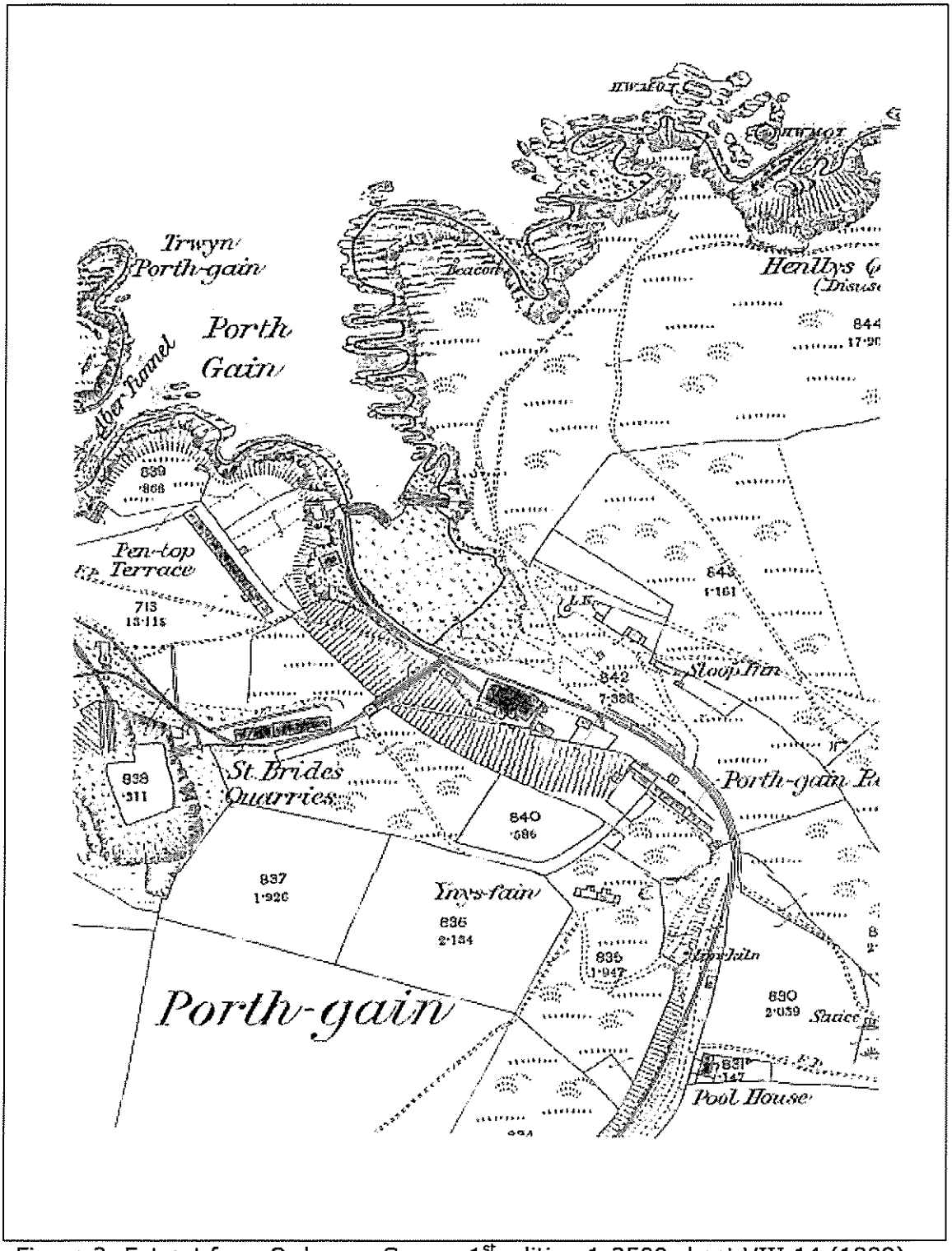

Figure 2: Extract from Ordnance Survey 1st edition 1:2500 sheet VIII.14 (1889).

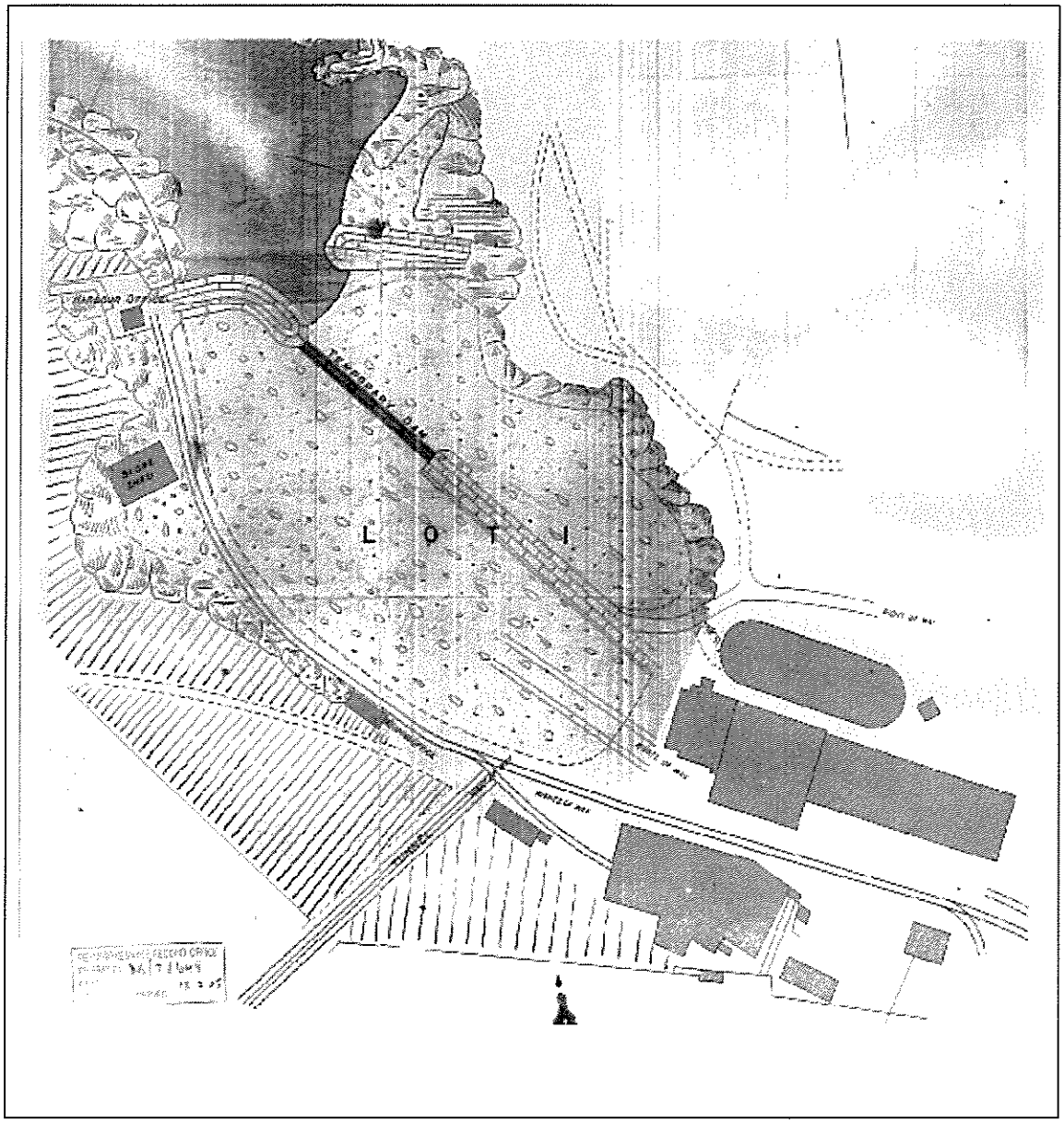

Figure 3: Extract from plan of Porthgain Harbour. Pembrokeshire County Records Office reference DB/7/648 (no date, but post-1889 and pre-1906).

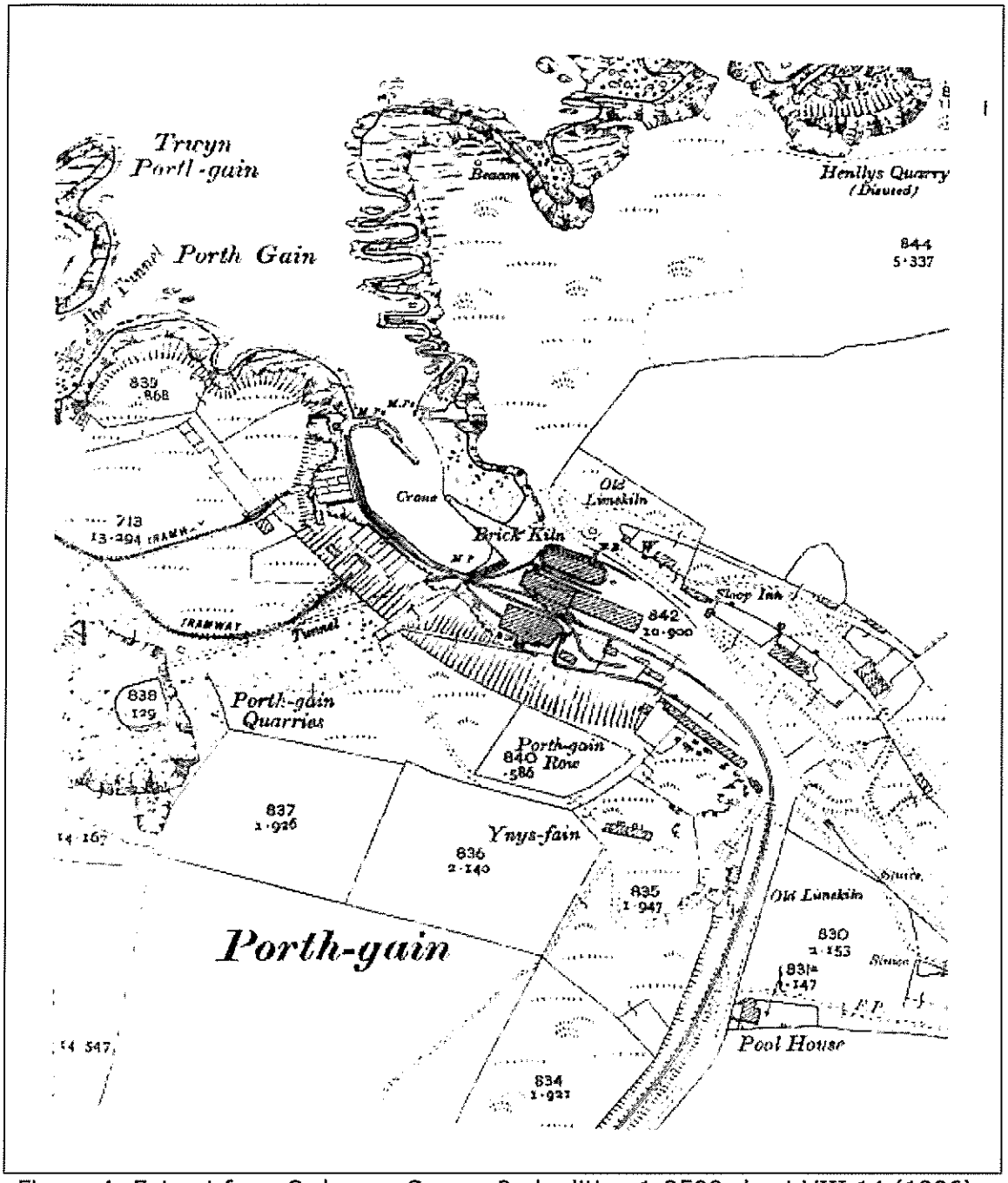

Figure 4: Extract from Ordnance Survey 2nd edition 1:2500 sheet VIII.14 (1906).

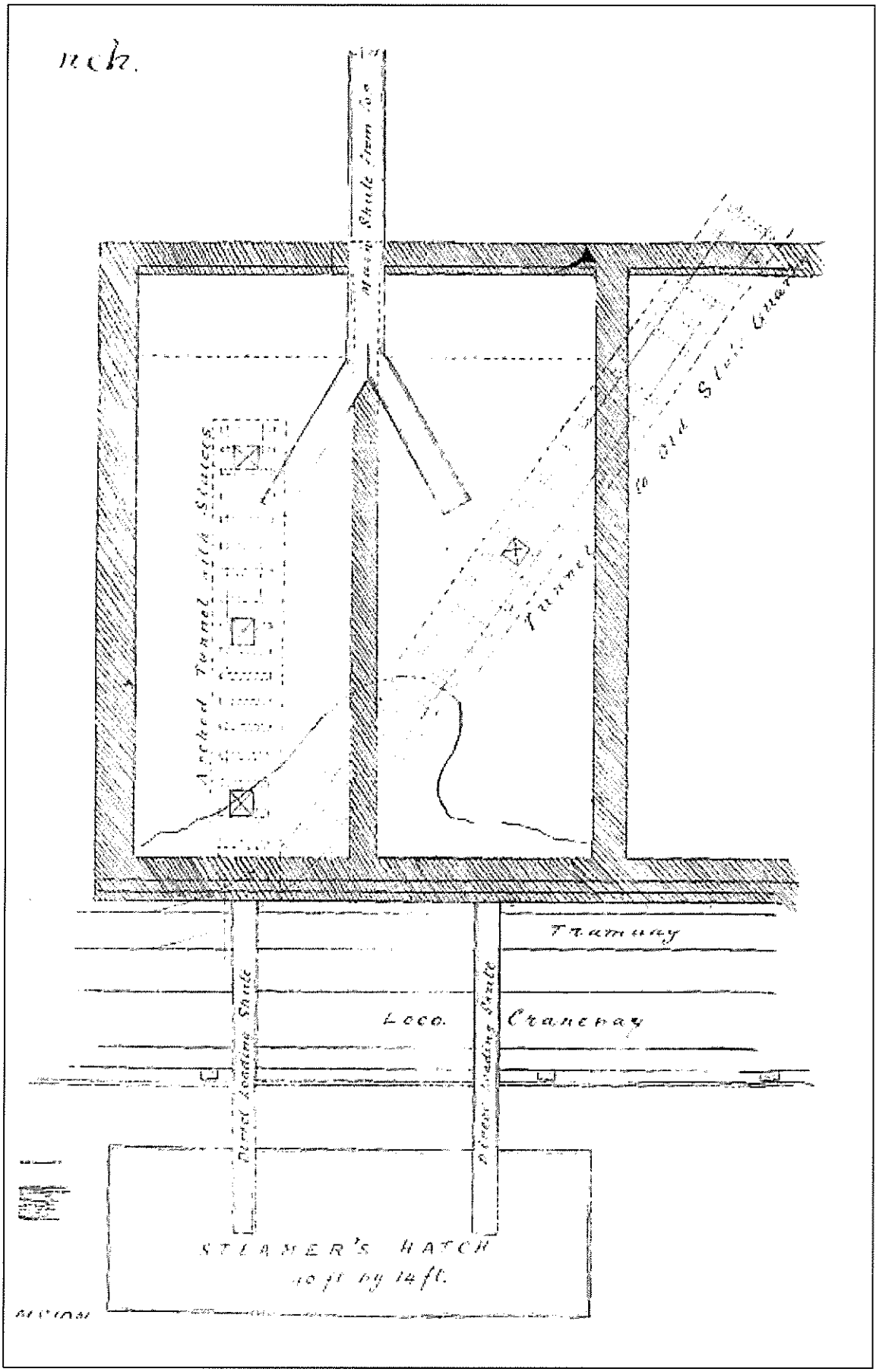

Figure 5: extract from plan of proposed new hoppers at Porthgain Harbour. Pembrokeshire County Records Office reference DB/7/648 (no date, but *c*.1910).

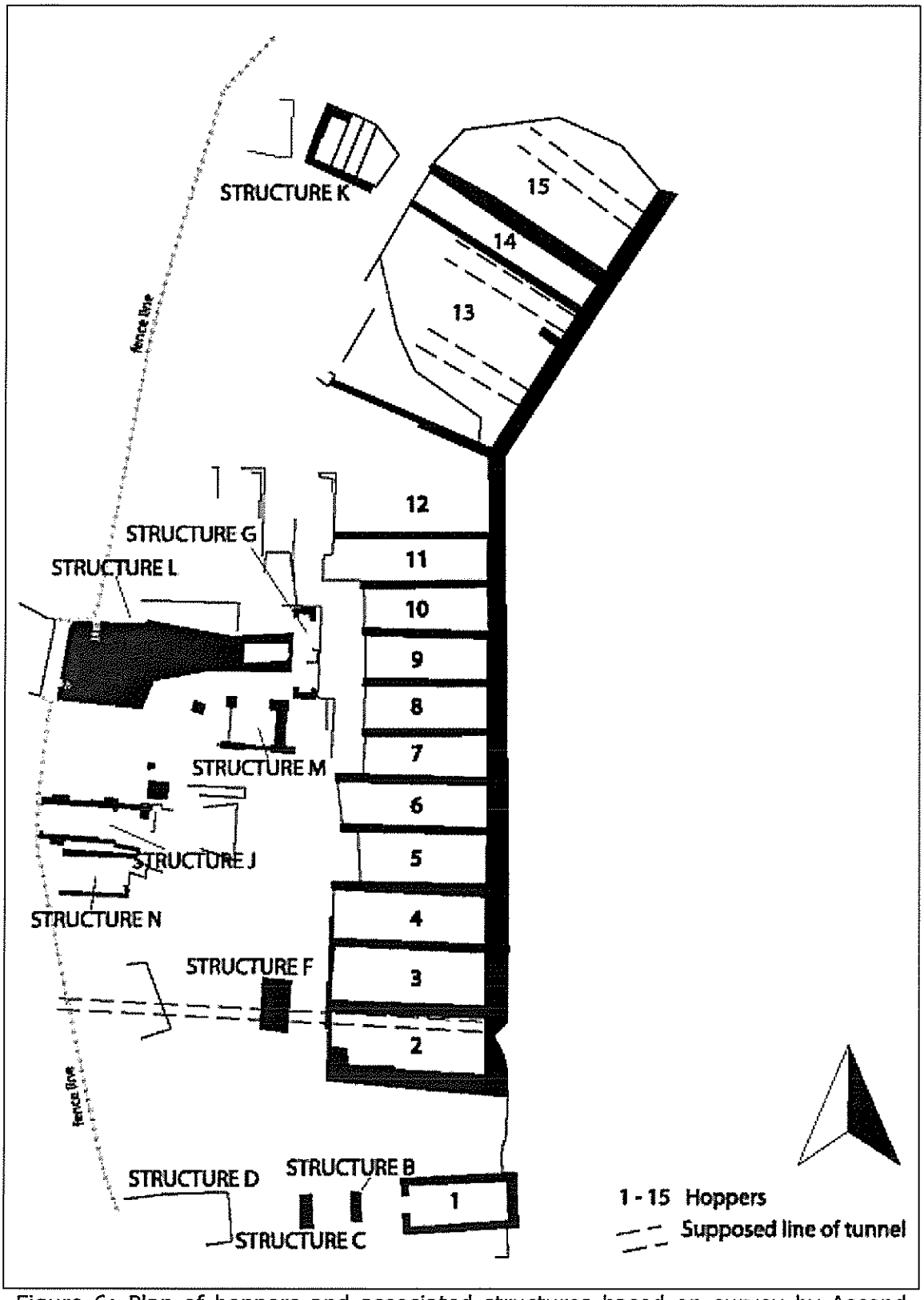

Figure 6: Plan of hoppers and associated structures based on survey by Ascend Cymru Ltd. 2004.

SOURCES

Cartographic sources

Tithe map

1842 Parish tithe map and apportionment for Llanrhian parish.

Ordnance survey maps

1889 1st edition 1:2500 sheet Pembs.VIII.14
1906 2nd edition 1:2500 sheet Pembs.VIII.14

Documentary sources

Pembrokeshire Records Office

Taken from the Porthgain collection:

DB/7/139	Correspondence and reports regarding insurance of boilers and cranes at Porthgain (1929-1941).
DB/7/160	Notebook of various stores needed for specific pieces of machinery (1911).
DB/7/401	Inventory of equipment (December 1919).
DB/7/403	Machinery and plant (March 1930).
DB/7/404	List of machinery and appliances (August 1941).
DB/7/405	List of tools at quarry (1919?)
DB/7/406	List of repairs and overhauling of machinery at Porthgain for restart of works (no date).
DB/7/648	Plan of Porthgain harbour in the parish of Llanrhian. Part of sale particulars (10th December 1902).
DB/7/653	Plans of existing stone bins (4th May 1909).
DB/7/665	Diagram of existing general arrangement of chipping plant [crusher] (9th March 1931).
DB/7/673	Plans or Porthgain Harbour (surveyed 1940)
DB/7/676	Plan of proposed new bins for chippings (no date).
DB/7/753	Schedule of machinery and equipment loaded onto 'South Wales Magnesia' lorry (17th – 19th March 1942).

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PORTHGAIN SLATE QUARRY
ARCHAEOLOGICAL DESK-BASED ASSESSMENT

REPORT NUMBER 2005/1

January 2005

This report has been prepared by Nigel Page

Position Project Manager

Signature ..... Date .....

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

Position Principal Archaeological Officer Field Services

Signature ..... Date.....

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