

# THE MEDIEVAL AND EARLY POST-MEDIEVAL COAL MINING INDUSTRY IN PEMBROKESHIRE: THREAT RELATED ASSESSMENT 2014 – INTERIM REPORT



*PE 463 Underhill Primitive Coal Workings*

Prepared by Dyfed Archaeological Trust  
For Cadw



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# THE MEDIEVAL AND EARLY POST-MEDIEVAL COAL MINING INDUSTRY IN PEMBROKESHIRE: THREAT RELATED ASSESSMENT 2014 – INTERIM REPORT

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*Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Ymddiriedolaeth Archaeolegol Dyfed Cyf am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys*

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## SUMMARY

*The aim of this project was to assess the potential for enhancing the schedule of ancient monuments with medieval or early post medieval sites associated with the coal mining industry in Pembrokeshire. This site type is currently under-represented on the schedule of ancient monuments in Dyfed. This project forms an element of the Cadw grant-aided medieval and early post-medieval threat related assessment project.*

*The Pembrokeshire coal mining industry did not achieve the massive levels of exploitation seen in south-east Wales and thus remained largely rural in character, and by the early nineteenth century it was in decline; the last colliery closed with Nationalisation in 1947. Nevertheless it was a significant industry and because of its rural character and relatively early decline it is more likely that eighteenth century and earlier mining features will survive here than elsewhere in the country.*

*The Dyfed Historic Environment Record lists over 200 coal mining sites in Pembrokeshire but this is known to be a vast underrepresentation of the resource. Numerous sites have been noted on historic maps or are visible on aerial photographs and many have been identified during field visits for other projects but have not reached the stage of being entered on to the Historic Environment Record.*

*As the overall resource had not been identified it was proposed to run this project over two years. Year one, undertaken 2013/14, comprised the desk-top element of the project and included visits to a selection of sites to establish the characteristics and survival rate of the coal mining features on the ground. Year two, to be undertaken 2014/15 will comprise site visits to the large number of sites remaining.*

*This interim report discusses the results of the work undertaken in year one which saw an initial primary sorting exercise identify a list of 300 possible coal mining sites. Research into historical documents including the Ordnance Survey Geological Survey Maps of 1921 produced another 380 records and these records have been entered into the Historic Environment in a basic form. Site visits were made to approximately 47 sites. These visits informed the methodology of carrying out field assessments in 2014/15.*

## **INTRODUCTION**

Over the past 18 years many major categories of site in southwest Wales, including all prehistoric and Roman sites, have benefited from a threat related survey project. In 2009/10 a scoping study was undertaken of medieval and post medieval sites (pre 1750) that had not been subject to such a threat related assessment. Identified during this study was a group of sites that represented the early coal mining industry in Pembrokeshire.

The purpose of this project therefore is to use the HER, NMR and secondary sources to assess the potential for enhancing the schedule of ancient monuments for the early coal mining industry in Pembrokeshire.

The Pembrokeshire coal mining industry did not achieve the massive levels of exploitation seen in south-east Wales, and thus remained largely rural in character, and by the early nineteenth century it was in decline; the last colliery closed with Nationalisation in 1947. Nevertheless it was a significant industry, and because of its rural character and relatively early decline it is more likely that eighteenth century and earlier mining features will survive here than elsewhere in the country. There are several good histories of the Pembrokeshire coal mining industry such as George Edward's *The Coal Industry in Pembrokeshire*, chapters in the *Pembrokeshire County History* and local histories, for instance those of Saundersfoot. However, these focus on the history and geology of the industry with an emphasis on the later nineteenth and twentieth centuries, with little note taken of the physical remains.

Most of the Pembrokeshire mining remains survive as earthwork sites and have no statutory protection. The majority lie on farmland, and so are vulnerable to continuing agricultural practices and to quarrying of material for use as hardcore and aggregates.

Two sites probably typical of early coal mining remains; Rhode Wood Shafts and Underhill Primitive Coal Workings have been protected by scheduling but as the total population has not been investigated it is not known whether these are the best surviving examples.

A few later coal mining sites in Pembrokeshire have well preserved upstanding remains, such as Grove Colliery and Hook Quay, and their importance as part of the Pembrokeshire coal mining industry has been recognised by scheduling.

## **AIMS AND OBJECTIVES**

The main aim of this project is to use the HER, National Monument Record, secondary sources and field visits to assess the potential for enhancing the schedule of ancient monuments with medieval or early post-medieval coal mining sites in Pembrokeshire.

The overall project's aims are:

- Assessment of the archaeological significance Pembrokeshire coal mining sites in both a regional and national perspective;
- Assessment of the vulnerability of this element of the archaeological resource, review of scheduling, and recommendations for future management strategies; and
- Enhancement of the regional HER and extended National Database.

The project's objectives are:

- To identify all coal mining sites in Pembrokeshire which require further assessment;
  - To collate existing documentary evidence for the sites;
  - To carry out a field assessment of those sites where necessary;
  - To incorporate all the information into a database and enhance the Dyfed HER; and
  - To advise Cadw on those sites which are of national value and currently without statutory protection.
- 
- As it is proposed to run this project over two years. The main objective of the first year was to complete the desk-top element of the project as well as undertaking a number of site visits to assess how site types survive on the ground. Year two, to be undertaken 2014/15 will comprise site visits to the large number of sites remaining.

## **METHODOLOGY**

All possible early (pre 1750) coal workings in Pembrokeshire recorded on the Dyfed HER that had not been the subject of a previous threat-related assessment were identified and categorised by site type in a desk-based appraisal.

The site types were then analysed in greater detail, providing an indication of total numbers, numbers of sites represented by earthworks, documents or place-names, and which sites are scheduled.

The desktop appraisal collated all the available information on each site as held in the Dyfed Archaeological Trust Historic Environment Record (HER). This included reference to the 1st and 2nd edition Ordnance Survey maps, tithe maps, SAM and Listed Building records, Ordnance Survey record cards and archived reports.

The records held by the Royal Commission for Historic Buildings and Monuments of Wales (RCAHMW) were consulted.

As it was known that the records held on the regional HER were under representative of the total number of sites on the ground, historical sources and aerial photographs were investigated to identify unrecorded coal mining sites. New records were created for these sites and these were entered onto the HER in a basic form, with the aim of completing them in more detail once site visits had been undertaken in the second year of the project.

A selection of site visits were undertaken to check the broad survival of sites on the ground with the aim of informing the methodology of carrying out field assessments in the following year.

Site visits were undertaken with the help of Peter Claughton, an honorary research fellow with the College of Humanities at the University of Exeter, who has over 25 years experience in researching the history and archaeology of mining particularly in Wales and South-West England.

Overall the two year project will result in a number of scheduling recommendations, a greatly enhanced HER and numerous one-to-one meetings with landowners and farmers



## RESULTS

### *HER records*

- An initial trawl through the Dyfed HER database produced c.300 coal mining sites of medieval and post-medieval date. In order to eliminate sites that do not fit the project criteria the following types of site were eliminated:
  - Sites with site form 'place-name'
  - Sites with site form 'finds'

- After removing all extraneous records, including duplications, the total number of coal mining related sites numbered 242 (Figure 1). These included:

Coal mine	77
Coal workings	34
Coal shaft	17
Colliery	1
Culm pit	13
Engine house	11
Coal mine shaft	19
Mining feature	13
Spoil tip	17
Tramway	16
Pit	7
Other	15

- The records could refer to a single mining feature, such as a solitary shaft or refer to a complex of different mine earthworks or buildings.
- Dating these features is problematic as, although the earthwork or building may be recorded as 19th century, the site may have much older, possibly medieval origins and elements of this earlier phase may survive.
- A dossier was produced for each site recorded on the Dyfed HER containing all available information, including reference to the 1st and 2nd edition Ordnance Survey maps, tithe maps, SAM and Listed Building records, Ordnance Survey record cards, aerial photographs and archived reports.
- Though few in number, dossiers were also produced for coal mining sites not recorded on the Dyfed HER but recorded by the RCAHMS.

### *New sites from historic mapping*

- A very useful source of information are the annotated maps; a result of the mapping of superficial geological deposits by the Ordnance Geological Survey carried out at the turn of the 20<sup>th</sup> century and published in 1921. The geologists annotated the 2<sup>nd</sup> edition 6 inch to 1 mile 1908 Ordnance Survey maps with details of the surface geology now comprised under the general term 'drift'.
- A contemporary account of the survey in 1897 described how the survey was carried out in mining areas:

*'In mining districts an endeavour is made to express on the maps the positions of the outcrops of all seams and lodes, the line of every important fault and dyke, with the place of such faults at the surface, and where they cut different seams underground. The information necessary to record these data is mainly furnished by the owners and lessees of the mines and pits, who, as a rule, most generously give the Survey every assistance. Details as far as possible are inserted on the six-inch Ordnance sheets..... At the same time, the district is surveyed in the usual way, and by exhausting the surface-evidence the surveyor is not infrequently able to supply important additional information beyond what can be obtained from the mining-plans.'*  
(McIntosh, R P. 2012)

- As well as the above the surveyors also noted individual shafts and whether they were disused or not and, of great benefit to this project, they also annotated the maps with areas of shallow or 'old workings'. The word 'old' would indicate that these workings had long been abandoned at the time of the survey and probably predate the deeper coal workings that were mapped in some detail by the surveyors. It is possible that these shallow workings are a result of coal extraction carried out on a small scale over many hundreds of years.
- Figure 2 shows an extract from the annotated 6 inch map covering the area of Freystrop Colliery. Towards the bottom right hand side the area circled in red has been annotated with the words 'MANY OLD SHALLOW WORKINGS'.
- Copies of these maps were obtained and for each mining feature mapped a new record was created that either denoted an individual feature or a discrete area of coal working features. These were new records and not duplications of current HER recorded sites.
- New sites have also been identified from early editions of the Ordnance Survey maps of Pembrokeshire and from inspection of a selection of aerial photographs.
- In total **380** new records have been created (Figure 3) and they have now been entered onto the Dyfed HER, albeit in a basic form. Their descriptions will be updated in the second year of the project when site visits have been completed.
- Provisional attempts have been made to draw polygons around groups of related sites, including those known to relate to a particular colliery. The polygons will complement the single point records on the HER. It is envisaged that during 2014/15 many more polygons will be created and/or revised following further research and the results of site visits.

#### *Scheduled sites*

- In addition six coal mining sites or sites associated with coal mining are scheduled:  
  
PE 492 Cresswell Quay  
PE 489 Grove Colliery  
PE 529 Hook Quay  
PE 458 Rhode Wood Shafts  
PE 479 Saundersfoot Incline  
PE 463 Underhill Primitive Coal Workings

### *Site visits*

- Approximately 47 sites were visited to establish the characteristics of the coal mining features on the ground and how well they survive.
- These site visits confirmed that for safety reasons it is necessary that the site visits are carried out by two people. The areas where coal mining features survive are now marginal ground, difficult to access as they are often covered with scrub which itself obscures open shafts and pits or open workings that are frequently flooded.
- Those coal mining features that do survive have survived because they are on land difficult to improve for agricultural use, being, for example, on steeply sloping ground, coastal fringes or near cliff or quarry edges.



*A view of the scrub overgrowth covering the shallow workings in the area of the later Southwood Colliery, 1.5km NW of Roch village.*



*Ironwork left within behind after the abandonment of Southwood Colliery.*

- The Rhode Wood Shafts and Underhill Coal Workings Scheduled Ancient Monuments are thought to be typical of the early coal mining remains of Pembrokeshire and these were both visited in year one to establish a base from which to compare other sites against.
- Underhill Coal Workings (PE 463) is a complex of earthworks typical of the early anthracite industry in Pembrokeshire and documented as having operated from the sixteenth to nineteenth centuries. Working was by means of wide trenches, known locally as 'reens', now heavily overgrown and hidden in mature woodland.





*The flooded trenches (above) and an open shaft with surrounding spoil heap (below) that lie within the scheduled area of Underhill Coal Workings.*







- The remains of a similar method of working coal by deep trenches can be seen in Little Milford Wood (above). As well as trenches there are numerous shafts in the area, some of which are fenced off by the Coal Board. Below is the tell-tale red iron rich sediment deposited by water flowing from Stumpy Corner adit that drained the coal workings in the Milford Wood area.





- Rhode Wood Shafts (PE 458) are thought to represent primitive anthracite workings from the eighteenth century until the 1860s. These workings lie in a wooded area on the southern outskirts of Saundersfoot town. The area has open public access and is used by dog walkers but the site visit confirmed that there are at least 70 open rock cut circular shafts that gave access to 'bell pits' across the area, whose depths are unknown, such as those shown in the photographs below.





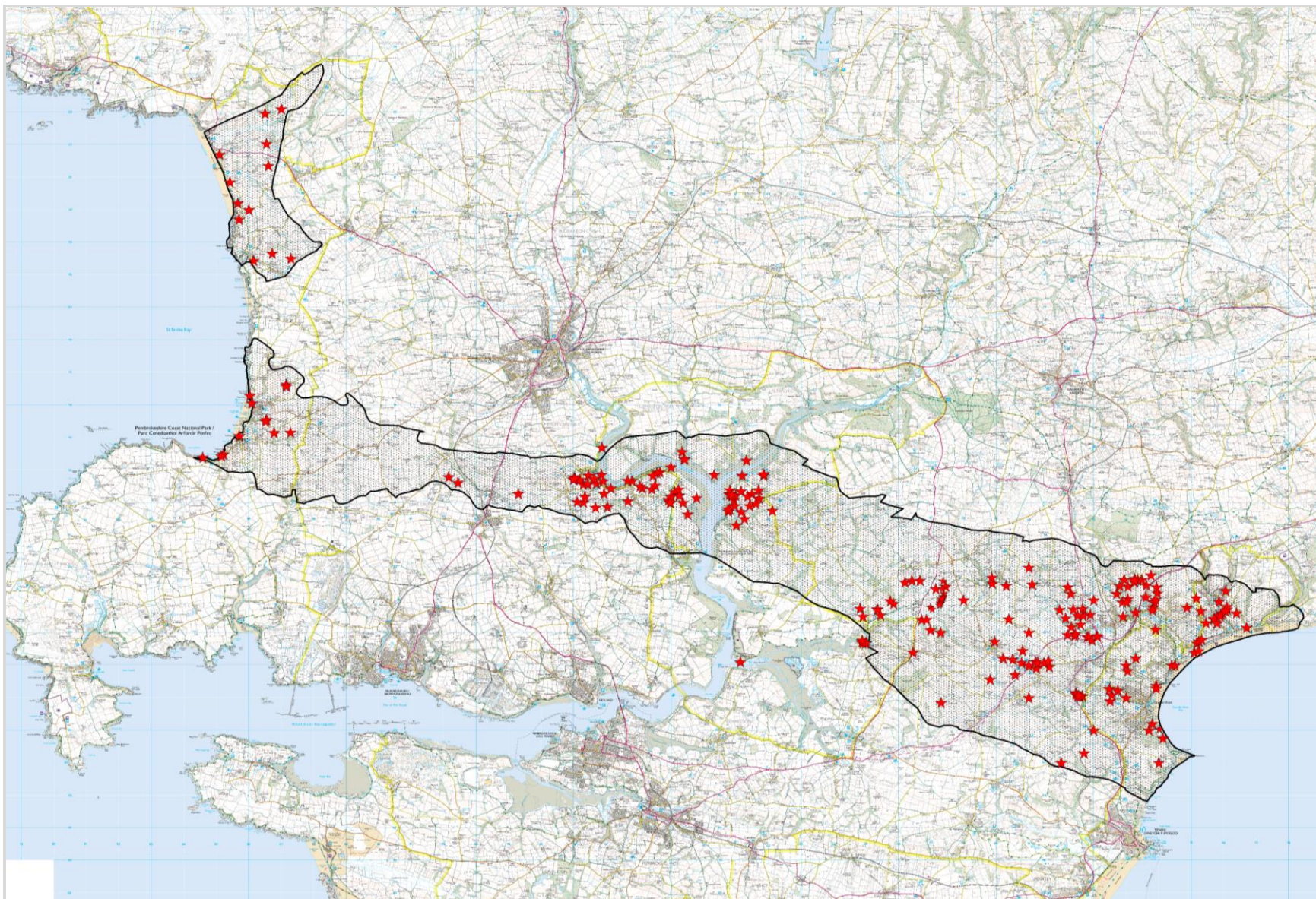
- In places where the coal was relatively close to the surface at more of a horizontal than vertical angle, a bell shaped pit was excavated to enable coal to be worked as far as geology, drainage or ventilation would allow.



*Felicity Sage of DAT and Peter Claughton in front of the opening to an adit in the area of Hook Wood shallow workings.*

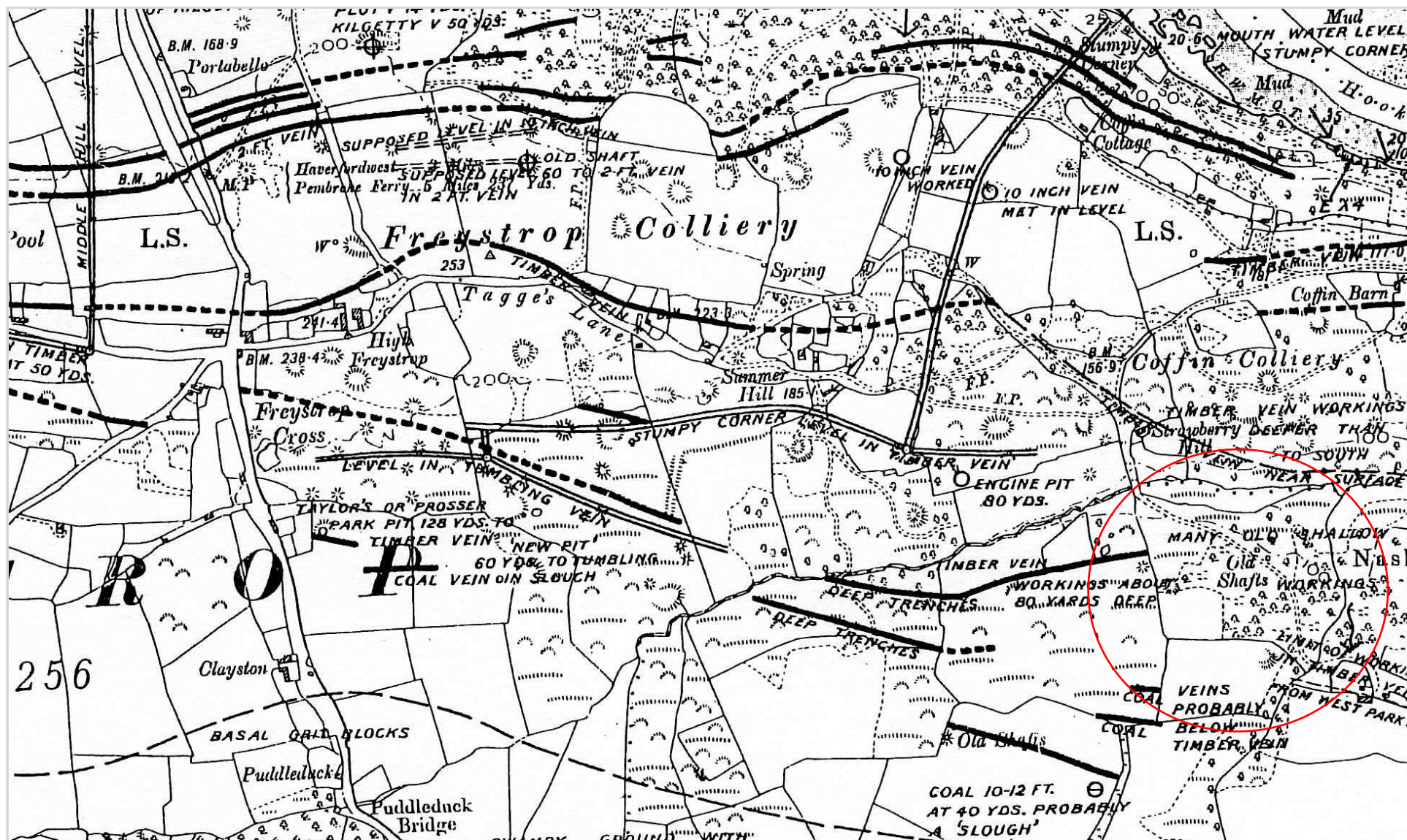
- The site visits have confirmed that remains of the early coal mining industry in Pembrokeshire survive of equal quality to that already afforded the protection of scheduling.
- Through Peter Claughton contact has been made with the Pembrokeshire Industrial Heritage Group. Meetings have been held with members who are interested in industrial archaeology and are very keen to be involved in the second year of the project. It is hoped that groups of members will take part in site visits to record coal working sites. Their local knowledge of the area will be of invaluable help during the year and will encourage the identification of further sites not currently recorded on the Dyfed HER.
- Following the first year of the project a database of 622 coal mining sites in Pembrokeshire has been created. Of these sites 47 were visited in this first year. In 2014/15 it is intended that sites visits are continued with the aid of Pembrokeshire Historical Society, to record early coal working sites and establish which sites may be worthy of protection by scheduling.





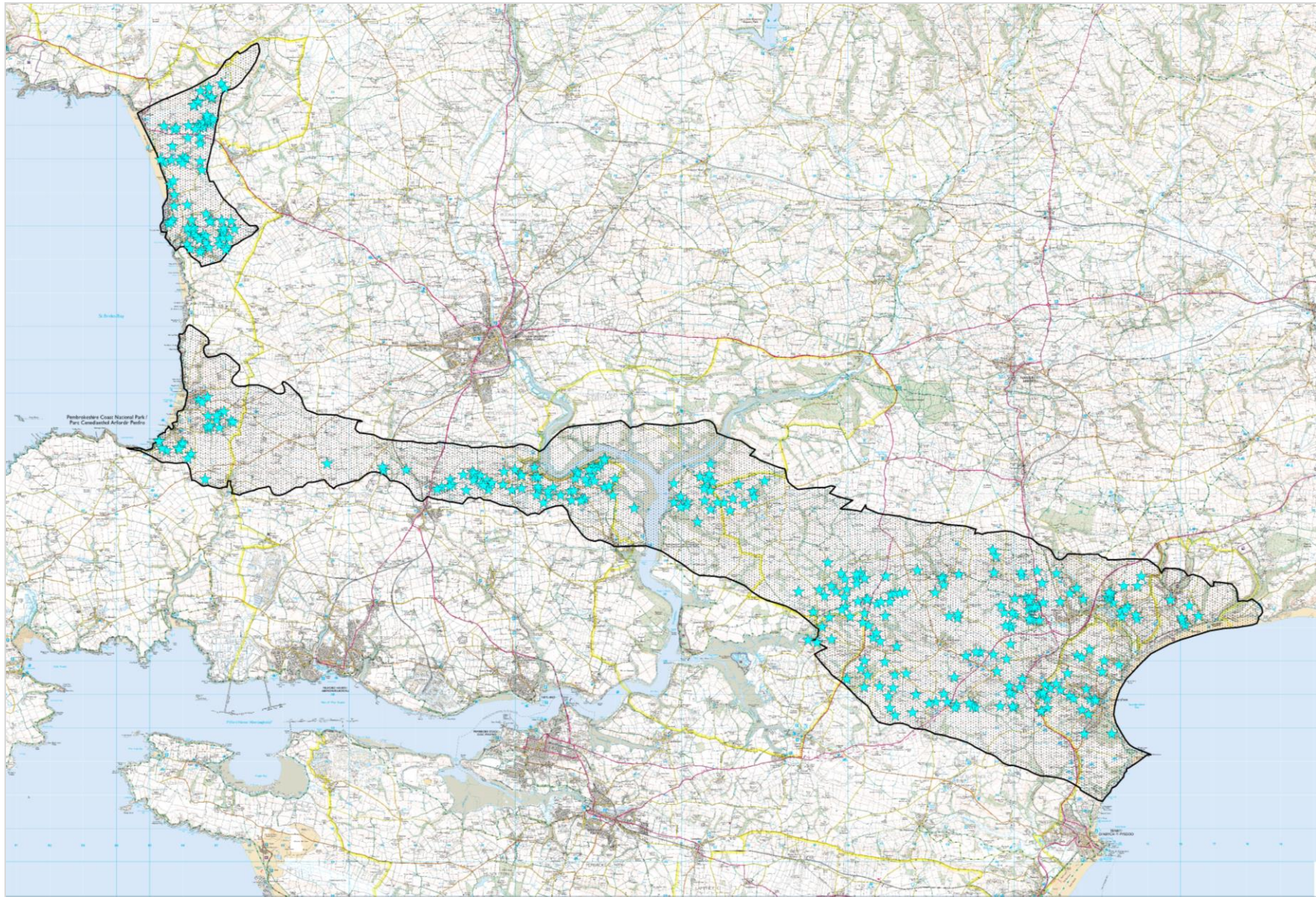
**Figure 1:** A map of south Pembrokeshire showing all coal mining sites recorded on the Dyfed HER at the start of the project.





**Figure 2:** An extract from the Ordnance Geological Survey map Sheet XXXIV NW. The survey was carried out at the turn of the 20th century and the maps published in 1921.





**Figure 3:** A map of south Pembrokeshire showing all the newly recorded coal mining sites identified from the annotated maps of the Ordnance Geological Survey map.

## **SOURCES**

Edwards, George, 1963. The Coal Industry in Pembrokeshire, *Field Studies*, 1, 33-64

McIntosh, R P. 2012. *Geological Survey of Great Britain and Ireland — a contemporary account of the Survey, 1897* Extract and illustrated from 1897 Geological Survey of Great Britain.



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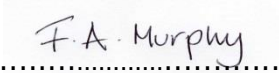
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Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith  
This report has been checked and approved by K Murphy

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Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau sydd  
gennych ar gynnwys neu strwythur yr adroddiad hwn

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

