

LLYWERNOG MINE WORKSHEET 2010

Why not have some extra fun when you walk round the Miner's Trail? Metal Ores have been mined in Wales for nearly 4000 years! To help you learn more about the old miners and the way they worked, we have written this simple Worksheet. All you have to do is to look carefully at all the exhibits and read the captions on the old photographs! When you think you have the answer, just write it in the space provided. The numbers refer to the main points along the Miner's Trail so you can't go very far wrong! Enjoy your visit.

01/. This is the start of the Trail. The Trail Marker Boards are all blue & white like this one and follow a roughly 'figure-of-eight' route around the old mine. Good Luck!

02/. *What sort of machine once fitted into this huge pit?*.....

03/. To help the Mine Pumps, Balance-Bob's were used to counteract the gigantic weight of the pump 'rods'. *Did a Balance-Bob move when working?*

04/. *What was a 'Count House' at a Mine?*.....

Where was George Green's Foundry located?.....

You are now inside the Count House and walking along a tiny railway line or Tramway.

Railways have been used in and around mines for over 500 years. The first rails were made of Wood. *What are the rails here made of?*

There is a small wagon, or 'tram', standing on the rails. *How was it moved?*.....

Look around the displays. Here you will see machines for Drilling holes in rock, and for Hoisting broken rock or ore. *How were they powered?*.....

Go round the corner and look at the full-size model of a typical Mine Shaft. Note the cross timbers dividing it up into 3 compartments. Besides the section where the big bucket (a 'kibble') hangs on its chain, there are two other sections. *One contains the for removing water from the mine and the other theby which the miners climbed to and from work.*

The Mine Smithy comes next. See the coke glowing on the Hearth. *Name two things you can see in the 'smithy'.*

a)..... b).....

Go upstairs and you will find maps and photographs of the lead mining areas of Wales. *Besides Mid Wales, where else were Lead Mines found in Wales?*.....

Look in the display cases & see the sparkling mineral specimens. *What colour is IRON PYRITES?.....Name one type of LEAD ORE.....*

Pass the sign for theArms pub & the upper section of the model shaft. In front of you is a rare example of a MINE CAGE or LIFT. Look at the example we have here which came from DYLFIFE MINE in Montgomeryshire. *What stopped the cage from falling down the shaft if the Rope or Chain broke?*.....

You now enter the main photographic exhibition. From the old photographs you will sense what life was like in the mining districts a century or more ago. *Which Railway Company once promoted Strata Florida Abbey as a local 'attraction'? The name is strange in such a rural area! M.....&...M..... Railway.*

Where did the 'Garland' family of Miners originate?.....

What did Lead Miners wear on their feet?.....

What was once shipped from Aberystwyth Harbour?.....

Why could Lead Miners use CANDLES to light their way underground while Coal Miners, generally, could not?.....

There is a Yellow Share Certificate in the display. Name the Mining Company shown on the Certificate.....

05/. You are now out on the Miner's Trail again. *What form of transport was used to bring COAL here for the mine Steam Engine?*.....

06/. Balcombe's Level was driven into the hill for a particular purpose. It enabled the miners to explore the Inside of the rocks in their search for Silver & Lead. *What is the term used to describe the search for minerals?*

07/. This quaint building was once the Ore ‘Dressing’ Shed! This is where the produce from the underground mine was washed, sorted and broken up by hammers! *At a mine like Llywernog, was this job generally done by Men & Boys OR by Women & Girls? Underline your answer!*

08/. This is a ‘Back-shot’ or ‘Pitch-back’ Waterwheel. *Name the Foundry where it was originally built.....*

09/. You are now looking down into old mine workings which date from around 1800 to 1814. *Is the mineral vein Horizontal or Vertical?*

10/. This ruined building was once the centre of operations on Poole’s Mine. It was the Office & Smithy. *Is it bigger or smaller than the later Count House?.....*

11/. The Mine Pond stores water used to power the Water-wheels lower down the hillside. *What is the proper name for a wooden trough supplying water to a water-wheel?*
.....

We collect water overnight for use during the daytime. Water resources were extremely important for the mining companies.

12/. *Why is this tiny, round building, built so far away from the main mine?*
.....

Head through the pine forest & you will find a new exhibit, snaking its way round the hillside! This is a small section of the new Water Channel dug in 1907 to bring water to Llywernog from the reservoir at the top of the valley near Nantyrarian Forest Centre. This formed part of a 6.5 mile long water feed which brought water to turn the wheels which, in turn, powered the pumps and machinery. *What was the proper name given to a water supply channel at a Mine or Mill?*
.....

13/. In the pine trees are the remains of a large stone structure. Many years ago there was a water-wheel located here which drove a winding drum & hoisted the ore bucket up the main shaft. In the days before Telephones or Radio, communication from surface to deep underground, was by way of signal bells and a lot of shouting!!!! *Would you like to have been in charge of the Winder?.....*

14/. Look down through the steel grills and you can sometimes hear other visitors enjoying their underground tour. In years gone by you might have heard the miners singing hymns as they climbed the long ladders from the bottom level, 132m down! It was the custom to measure shafts in a very old unit of measurement, more usually associated with the sea! *What is that old unit of measurement?*

15/. *Why is the Flat-rod pointing in this direction?.....*

16/. *Why was the Rock Crusher necessary?.....*

Do you think the Crusher weighs 2tons, 4.5 tons or 6 tons.? (Circle Answer)

17/. *Where was the Eagle Foundry located?.....*

18/. The JIG was a very important item of Machinery in a Lead Mine as it sorted the heavy lead ore from lighter rock or other minerals. It worked by vibrating the particles in water, causing the lead ore to sink very rapidly to the bottom where it could be recovered. Pure lead ore from the Jigs could be bagged and sold to the Smelters in South Wales. *They used coal or coke to produce heat on Smelting Hearths, where could then be produced from the Ore ‘Concentrate’.*

19/. Dressing Floors extended along the riverbank, with the final collection of fine Lead Ore particles being made by Round Buddles and Settlement Pits. *Where was this bottom water-wheel originally made?*

20/. Passing the Dipper Wheel, note the simple flat-rod system in operation before

21/. The Assay Office, containing our exhibition on Welsh Gold. The Panning DVD will give you all the tips you need to become a proficient GOLD PANNER!

We really do hope you’ve enjoyed the Miner’s Trail and this little Worksheet!

Loads more info is available on our Website at: - www.silverminetours.co.uk

& check us out on ‘Facebook’ and ‘Twitter’! Thank you for visiting our Mine.

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