

# PENCLAWDD AND THE MORLAIS VALLEY

## A CORNER OF THE COALFIELD IN NORTH-EAST GOWER

Discover geology and landscape: walking trails in rural Swansea

### SCRATCHING THE SURFACE

### CRAFU'R WYNEB

# PEN-CLAWDD A CHWM MORLAIS

## CORNEL O'R MAES GLO YNG NNGGLEDD-DDWYRAIN GŴYR

Darganfod daeareg a thirwedd: llwybrau cerdded yn ardal Abertawe

9.5 KM  
4 HOURS  
GPS COMPATIBLE

START  
GRID REF.  
SS 54500 95900

in the public car park in Penclawdd. Penclawdd is served by bus.

### PATH CONDITIONS

The trail follows country lanes and marked paths, which can be muddy. There are several stiles. There is a steep hill at the start.

### MAPS



Ordnance Survey 1:50,000 map 159 (Swansea & Gower)  
1:25,000 Explorer map 164 (Gower)  
Geological Survey 1:50,000 Sheet 247 (Swansea)

### REFRESHMENTS



Penclawdd

### SAFETY

Be careful of traffic on roads. Grid references are for guidance only. Follow the Countryside Code (<http://naturalresourceswales.gov.uk>) and the Geological Fieldwork Code ([www.rockwatch.org.uk/geological\\_code](http://www.rockwatch.org.uk/geological_code)). Respect people, protect the environment and stay safe. Wear sensible clothing and footwear.

### FURTHER INFORMATION

Local walking groups [www.swansea.gov.uk/walking](http://www.swansea.gov.uk/walking)  
Local geology [www.swga.org.uk](http://www.swga.org.uk)  
For junior geologists [www.rockwatch.org.uk](http://www.rockwatch.org.uk)  
Geology and geological maps [www.bgs.ac.uk](http://www.bgs.ac.uk)  
Gower Society [www.thegowersociety.org.uk](http://www.thegowersociety.org.uk)  
Wildlife Trust [www.welshwildlife.org](http://www.welshwildlife.org)  
Archaeology [www.ggat.org.uk](http://www.ggat.org.uk)

The Geology of South Wales: A field guide by Gareth T. George ([gareth@geoserv.co.uk](mailto:gareth@geoserv.co.uk), 2008)

A Guide to Gower edited by Don Strawbridge and Peter J. Thomas (Gower Society, 1999)

Text and images: Geraint Owen, Siwan Davies (Swansea University)  
Welsh translation: Dyfed Elis-Gruffydd  
Design: [iconcreatedesign.com](http://iconcreatedesign.com)

9.5 KM  
4 AWR  
YN CYDWEDDU  
Â GPS

In the nineteenth and early twentieth centuries, the area around Penclawdd was a centre of heavy industry, as befits its position in the South Wales Coalfield. This trail looks for evidence of this industry in the landscape of what is now a quiet and peaceful corner of the Gower peninsula. The trail is 9.5 km (6 miles); allow half a day. A shorter option is 3 km (2 miles).

Yn ystod y bedwaredd ganrif ar bymtheg a'r ugeinfed ganrif, roedd yr ardal o gwmpas Pen-clawdd yn ganolfan diwydiant trwm ar gyfrif ei lleoliad oddi mewn i Faes Glo De Cymru. Mae'r daith hon yn edrych am dystiolaeth o'r diwydiant hwnnw yn nhirwedd y cornel tavel, digynnwrf hwn o Benrhyn Gŵyr. Mae'r daith yn 9.5 km (6 milltir) o hyd; cynlluniwch am hanner diwrnod. Mae fersiwn byrrach yn 3 km (2 filltir).



Look for other trails in this series!



## SCRATCHING THE SURFACE



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Discover geology and landscape: walking trails in rural Swansea

Darganfod daeareg a thirwedd: llwybrau cerdded yn ardal Abertawe

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email: [g.owen@swansea.ac.uk](mailto:g.owen@swansea.ac.uk) #scratchingthesurface  
<http://geography.swan.ac.uk/scratchingthesurface/>







Turn left out of the car park. Cross the road - take care! Turn right into Benson Street, left along Benson Road (Maes yr Haf) and right steeply up Old Colliery Road to where it levels off just after Brynfa Terrace. [0.5 km; SS 54480 95549]



Penclawdd

**A** The name Old Colliery Road recalls the industrial character of Penclawdd in the 19th century. Mines extracted coal from beneath your feet, a copperworks near the car park was opened to rival those in the Swansea Valley, a railway ran through the town to nearby Llanmorlais, and Penclawdd was an active port.

Turn left at the T junction and right after bollards. Where the road bends left, continue ahead on a path between houses. Steps lead to a road - take care! Turn left up the road for 60 metres, then take a path on the right climbing through trees to a stile. Cross the stile and continue straight uphill, keeping to the right of a hedge to another stile. [1.0 km; SS 54496 95286]

**B** The view north over Penclawdd and the Loughor Estuary to Llanelli and beyond looks across the South Wales Coalfield, underlain by layers (beds) of sandstone and mudstone over 2 kilometres thick. The rocks formed 320 million years ago, in the late Carboniferous period, as sand and mud in rivers and deltas like today's Amazon Basin. Peat formed in swamps and was buried, becoming seams of coal. The rocks beneath your feet belong to the Pennant Sandstones, part of the coal-bearing rock sequence.



Scarp and dip slopes above Pontarddulais



The climate was tropical but Britain has since drifted northwards. About 300 million years ago the rock layers were squeezed into a bowl-like fold - the South Wales Coalfield syncline. Across the estuary, to the right of the Loughor Bridge, the hills above Pontarddulais are shaped like the teeth of a saw: short, steep slopes face left (north) while longer, gentler slopes face right (south). Sandstone resists erosion more than mudstone, so the long slopes follow sandstone beds tilted gently to the south; there is a Scratching the Surface trail there at Cefn Drum. Here in Penclawdd the beds dip northwards. The centre of the Coalfield syncline lies between here and Pontarddulais.

Cross the next field to another stile. [1.1 km; SS 54470 95215]



Morlais Valley

**C** The view south across the Morlais valley to Cilonnen, the destination of this trail, is very different. Several million years ago the landscape was level; the river has carved out the valley because that area is underlain by weaker mudstone beneath the sandstone-rich rocks of the hill you are standing on. Because the rocks dip northwards, ground beyond the Morlais valley is underlain by older rocks - tough, sandstone-rich intervals in the lowest part of the Coal Measures.



The rocks beneath the Morlais Valley

Rocks break down, or weather, to form soil. Now that mines have closed and quarries are overgrown, little can be seen of the rocks beneath the surface. They are covered also by a deposit called till, material released from melting ice at the end of one of the cold glacial episodes that have occurred repeatedly over the past 2 million years. The area was last covered by ice just 20,000 years ago!

Continue down the field and cross a stile onto a lane - take care! For a shorter walk turn right here and resume the trail between J and K. The main trail turns left to the village of Blue Anchor, where you turn right to the church. Go to the church door. [1.9 km; SS 54852 94835]



Blue Anchor church

**D** Several types of building stones have been used in the church. The walls are brown Pennant Sandstone quarried from the local coal-bearing rocks. It is not easily worked to uniform shapes and sizes, and its iron oxide content causes it to weather rapidly. The door and window surrounds are a more easily carved yellowish rock. This is a limestone of Jurassic age, formed about 150 million years ago and brought here from quarries in the Cotswold hills. The roof is slate, a metamorphic rock extensively quarried in North Wales. The gravestones include many other rock types.

From the church door, retrace your steps for 20 metres and cross a stile on the left. Bear left across the field to another stile. Go straight down the next field past a barn. Follow a faint path through the trees, cross a lane and follow the edge of a field to the Morlais River. Cross the bridge and turn right uphill along the lane. Cross the yard of Cerrig Môn and follow the lane to the next field boundary, alongside a lone oak tree. [2.9 km; SS 54815 93950]



Morlais Valley from the south

**E** Despite today's tranquil rural setting, there used to be a colliery near here. A path on the right follows the line of a tramway that took coal to the railway at Llanmorlais. Looking back towards Blue Anchor, notice how deeply the Morlais River has eroded into the landscape.

Continue uphill on the track. After the next field boundary, cross a stile on the right. Turn left and follow the hedge across 3 fields to the road at Cilonnen. Turn left, keep left at the junction, and follow the road to the crest of the hill and a bench on the right. [3.8 km; SS 55225 93472]



Common land

**F** Open commons are typical of parts of north Gower underlain by poorly drained sandstone and mudstone. Grazing animals and wet ground conditions prevent scrub and woodland from taking over. The high ground to the south is Cefn Bryn, underlain by older rocks of the Old Red Sandstone. Between here and Cefn Bryn is the outcrop of the Carboniferous Limestone. A Scratching the Surface trail at Penmaen explores these landscapes. You may be able to see north Devon beyond.



Continue for 800 metres, passing ruined Carmel Chapel on the left. The large village ahead is Three Crosses, once a coal-mining centre. 100 metres before a cattle grid, a sign on the right directs you to a footpath on the left across the common. Stop here. [4.6 km; SS 55885 93640]



Mynydd-Bach-y-Cocs

**G** The open land is Mynydd-Bach-y-Cocs, named for the cockles collected from the Loughor estuary. Although the commons may seem damp and drab for much of the year, in early summer they come alive with cotton grass, orchids, ragged robin and spikes of foxgloves. The wooded area on the right of the road conceals waste tips from Whitewalls Colliery. Continuing towards H, the structure on the skyline ahead is an engine-house from the former Caer Eithin colliery, another relic of former coal-mining activity.



Mynydd-Bach-y-Cocs and Caer Eithin engine house

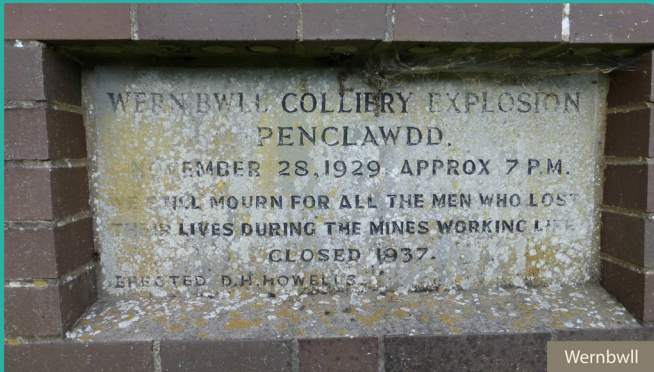
Follow the path across the common, initially towards the engine house, then bearing left to a gate and a bridge across the Morlais River. [5.2 km; SS 55717 94097]



Glacial till

**H** Clay-rich stony ground near the gate is till, debris deposited from melting ice. The blocks include rocks from this area and others, called erratics, brought by glaciers from further north. There is no sign of bedded sandstone and mudstone in the river bed, showing that it has not eroded all the till.

Cross the river. Follow the track uphill for 40 metres. Pass a path uphill on the right, bearing left on a well-used path that winds through scrub to a lane. Turn right, keeping right at a junction. Where the lane turns left, continue steeply uphill. Go through a gate and bear left to the road in Wernbwl. Turn left and proceed carefully along the road for 100 metres to a parking area on the right. [6.2 km; SS 55417 94741]



Wernbwl

**I** A plaque marks the site of the former Wernbwl colliery, where 7 men died in an underground explosion in November 1929. The mine operated from 1893 to 1937 and employed about 150 men.

Continue carefully along the road for 100 metres to a junction with a lane on the left. [6.3 km; SS 55320 94780]



Blue Anchor and north Gower

**J** Over the spire of Blue Anchor church the spit of Whiteford Point protects the mouth of the Loughor Estuary and the salt marshes near Llanrhidian. To the left is Llanmadoc Hill. Like Cefn Bryn, this is underlain by Old Red Sandstone: there is a Scratching the Surface trail there. To the right of Blue Anchor village is the inner part of the Loughor Estuary, with Llanelli and the Coalfield hills beyond. The railings are set in finely cut blocks of Pennant Sandstone, although the gateposts are Carboniferous Limestone - look for fossils!

Continue carefully along the road for 100 metres to a marked path through a gate on the left. Turn right and follow the hedge on the left. Shortly after it curves left, go through a gateway and continue downhill to the left of a hedge. Go through a gate in the dip and bear slightly left uphill to a stile. Cross the stile and turn left to Blue Anchor church. Re-trace the outward route by turning right through Blue Anchor then left at the road junction and follow the lane for 350 metres. Keep straight on at a junction. In a further 300 metres the lane curves right, then left at the corner of a house. Pass a post-box and turn right on a marked path downhill, past a house and through trees to a bench. [8.3 km; SS 54219 95535]



Penclawdd and the Loughor estuary

**K** Enjoy the view! The Loughor River has eroded weaker, mudstone-rich parts of the coal-bearing rocks to form a wide valley, now flooded by the sea. Because of its funnel shape, the tidal range commonly exceeds 10 metres. At low tide you can see sand bars shaped by the strong tidal flows and creeks draining the marshes. You may see people harvesting cockles from the sands.

The slope down to Penclawdd is very steep. After the last glacial episode, before the marshes formed, the sea cut into the slope, forming a cliff that has since become vegetated. Take a last look over Penclawdd and try to imagine the noisy, bustling, smoky town with its mines, railway, copper works and port!

Continue down the path to the road. Carefully cross into Old Colliery Road. Turn left and retrace your steps to the start.

**FINISH**