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# Porth Amlwch Geotrail

[Fully illustrated PDF](#)

[Welsh version](#)

**Explore the geological and archaeological history of Porth Amlwch on this fascinating Geotrail walk.** Dr John Conway (GeoMôn & Royal Agricultural College)

**Pictures:** J. Conway, unless stated otherwise

**Length:** 1 mile

**Time:** 1 hour approx.

**Difficulty:** Easy/Moderate (uneven surfaces from stops 7 to 12)

**Parking:** Amlwch Port Square

The old harbour at Porth Amlwch is well known for its industrial archaeology and its history related to both exporting copper ore from Parys Mountain and for shipbuilding. But how many people stop to explore its 530 million year old geological history? This short stroll around the harbour looks at the rocks and the story they tell.

**Starting point:** approach the harbour on the top road from where there is a good view over the long narrow inlet excavated along a major joint or fracture in the Cambrian green schists. Gradually walled up over the centuries, this became a busy harbour in the 18–19th centuries. The map shows clearly the various quays and dry docks. At point [1][SH 44971 93247] the wall is made of Carboniferous limestone, probably from the Moelfre–Benllech area, with large brachiopod fossils [shells like modern day scallops].

Follow the road and at point [2][SH 45077 93427] look down over the copper ore bins now [being] renovated and the circular lime kiln where limestone brought in as ballast in ships was roasted to form lime for the local acid soils. At Point [3][SH 45136 93485] you can visit the Sail Loft with its industrial exhibits and café. Walk around to point [4][SH 45111 93500] where built into the wall on either side of the bench is a large block of black glassy slag from smelting of the copper ore.

Walk down to point [5][SH 45067 93464] where GeoMôn, the Anglesey Geopark is creating a "rock clock" to demonstrate geological time, using real rocks from the various time periods. Over the wall, the natural rock shows a crude "folding" — where the original bedding has been crushed into a zig-zag pattern (more at points [9] & [11]).

Walk out along the short quay to the old Watch House [6][SH 45041 93490] where the pilots used to wait to row out and guide the sailing ship in and out of the harbour — this is now the visitor centre for GeoMôn, (Anglesey Geopark) with exhibits, free leaflets and guidebooks for sale, and refreshments. The building is of local stone with carved blocks of Carboniferous limestone for the quoins and door /window frames. Examine these carefully — they are full of different types of fossils. Look across the harbour towards point [9]— where a fault shows up as a planar fracture in the rocks, with the seaward end dropped down about 1—2 metres.

Walking along the quayside, notice several large bollards for tying up the ships (e.g. at [7][SH 44978 93322]), again made of Carboniferous limestone. There were major quarries all along the coast from Lligwy to Penmon exporting this stone for building. Nowadays only a couple of small quarries remain inland near Benllech producing smaller stones for wall or fronting houses.

Walk around the head of the inlet and along the grassy path until it joins the gravel track (point [8][SH 44928 93340]) — the shiny metallic looking material in the road is either a hard form of ore that couldn't be smelted in the early days of the

mine, or black glassy slag. The miners used waste material to pave the road all the way from the mine to the harbour.

Walking on towards point [9][SH 44985 93475] where the path follows a narrow cut into the rock face, there are abundant opportunities to look close up at the local rock. Finely bedded, greenish material, weathering yellowish in places, and sometimes with layers of coarser sand or gritty particles, these rocks were deposited in deeper water on the sea floor maybe as long as 530 million years ago - a time when Anglesey was located where New Zealand is at the present day. Driven by plate movements [like those causing the recent earth quakes in Japan and Turkey] that are moving at a couple of centimetres per year (the speed we are currently moving at), it's not too improbable a story!

At point [10][SH 45050 93606], large boulders of slate have been dumped, originally to act as a breakwater. Looking completely out of place, at least they indicate an attempt to make use of some of the waste products of quarrying rather than excavating new stone.

A short walk beyond the harbour wall towards point [11][SH 45046 93637] gives a good view of the impact of glaciers on this area. The generally rounded look to the landscape is the result of ice grinding the rocks smooth, though more recent erosion has started to open up a more jagged rock surface.

Walk out along the 'new' breakwater (point [12][SH 45137 93633]) constructed in the 1980s to shelter the pilot boats and those constructing the [now defunct] oil pipeline — from the end there is a good view up the harbour to the top of Parys Mountain.

## Figures

[See PDF](#)

Route map. Porth Amlwch Geotrail.

Many walls are constructed, of carboniferous limestone with various fossils [inset a brachiopod].

View over the limekiln and Watch House [point 6] and the glacial landscape [point 11].

Colourful weathering on slag from copper smelting.

The Old Watch House, home to the GeoMôn visitor centre, with doorway constructed of carboniferous limestone [inset: fossil corals]

A fault displaces the rocks vertically by about 2 metres.

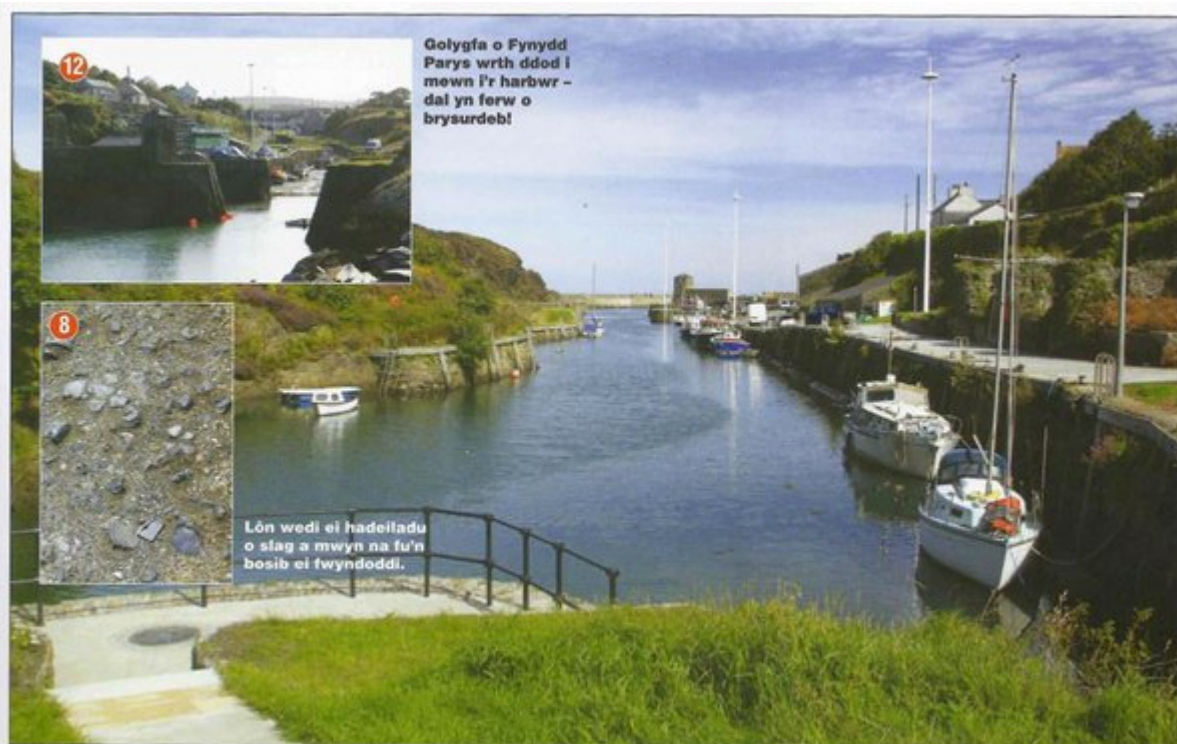
Bollard on quayside.

The general landscape has been carved and smoothed by the passage of glaciers.

The harbour, Porth Amlwch. Insets: Entering the harbour with a view to parys Mountain - still a hive of activity! Roadway constructed of slag and ore too difficult to smelt.



Route map. Porth Amlwch Geotrail.



The harbour, Porth Amlwch.