
Geotrail from Bodafon to Moelfre

[Fully illustrated PDF](#)

[Welsh version](#)

Enjoy fascinating geology and magnificent scenery on this beautiful and spectacular walk on the East coast of Anglesey.

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Pictures: J. Conway, unless stated otherwise

Length: 8 miles **Time:** 4 hours

Difficulty: Moderate

This trail is split into two parts. The first part is a short walk up on Mynydd Bodafon Grid Ref: [SH 471 853], and the second part is a circular walk (approximately 7 miles) from the car park in Brynrefail Grid Ref: [SH 480 870].

This walk starts at the top of Mynydd Bodafon [1][SH 47210 85391], an isolated mass of Precambrian quartzite [a hard metamorphic rock originally a sandy material], giving a magnificent panoramic view over Anglesey. After enjoying the views, take the path towards the small carpark, noticing a small quarry on your left in frost shattered quartzite. This is a scree that developed during the last ice age with a colourful soil profile with black peat overlying a greyish layer over another darker layer rich in organic matter and iron. This is a podsol, a soil typical of the acid heathland covering Bodafon.

Follow the road towards Brynrefail for a short way to a small exposure of rock [2][SH 47531 85578] on the verge (ignore the small quarry) which has a reddish matrix including fairly angular pieces of quartzite. This is very much older than the glacial scree, in fact it developed in a blisteringly hot desert about 400 million years ago, hence the bright red matrix. We'll pick up the story of this when we get to the coast.

You can now make your way down to Brynrefail by car, or by foot if you're feeling energetic, to start on the second part of this trail. From the car park in Brynrefail, walk down the road towards the Pilot Boat and take the coastal footpath across the fields to the coast at Traeth yr Ora.

A small diversion to the left gives good views over Traeth Dulas [3][SH 47531 85578] and the shingle bar that almost encloses the bay. Our path turns right towards Lligwy following the top of the low cliffs.

The rocks along the shore [4][SH 49117 88428] are bright red, similar to the matrix of the desert scree and there are plenty of places to descend onto the rocks, but they can be slippery when wet. At low tide one can walk much of the way on the sands giving a better view of the structures within the rocks.

There are three main rock types along the coast here — a fine flaky rock with corn coloured nodules, a hard coarser sandstone, and a lime rich rock that often has a lozenge shaped weathering pattern. These three alternate irregularly along the shore. They dip quite steeply in places, showing good cross sections through the sequence of beds, elsewhere [5][SH 49437 87702] they are folded into miniature synclines (U-shaped folds), anticlines (arch folds) and sometimes faulted (where the rocks have snapped and been moved either sideways or vertically).

These were deposited during the Devonian period when Anglesey was in the middle of a continent, a huge river flowed south through a desert environment. The hard sandstone was probably deposited in the river bed, the fine flaky rocks were floodplain deposits turning into soil, and the lozenge-shaped rocks represent dried up lake sediments. Bodafon now fits into this ancient landscape as a hill with scree forming along its sides. You were standing on a hill that was there 400

million years ago!

Above the rocks, there is a low cliff mostly covered in vegetation, but a reddish brown material containing large stones is sometimes visible. This boulder clay was deposited by the ice sheet that had made its way from as far away as Scotland. After you cross the stream in the middle of the beach you may see patches of this red clay with dire warnings of the danger of sinking into it should you dare to walk across it.

On the south side of the bay the rocks are completely different! The cliff is horizontally bedded grey rocks — limestones laid down in shallow, subtropical seas teeming with life during the Carboniferous period. There is a puzzling feature to look at [6][SH 49985 87144]. The beach is strewn with loose pebbles and small boulders, but as you look carefully, you will realise that many of these are actually part of a layer of rock, and amongst them is a large pillar of grey limestone sticking up through this stony layer. The only logical explanation is that this represents an ancient beach surrounding a small sea stack (an eroded remnant of the cliff) with stones piled up all around it. For the second time today you are standing on an ancient land surface, a beach dating back to some 300 million years go.

From here [7][SH 50352 87290] the coastal path follows the cliff top with clear examples of how rain or soil water dissolves the limestone widening cracks and leaving blocks creating miniature limestone pavements.

In Porth Helaeth [8][SH 51327 86871] the limestone overlies a brownish sandstone and there is large fault within the cliff. Near Moelfre [9] there are clear signs of the extensive quarrying that took place along the shore.

Moelfre [9][SH 51507 86430] marks the end of this Geotrail, a perfect opportunity to have a well earned break and take advantage of the cafes in the village, before following the lane back to the start point at Brynrefail.

Figures

[See PDF](#)

Route map

View from the top of Mynydd Bodafon [1].

Porth y Môr looking towards Dulas.

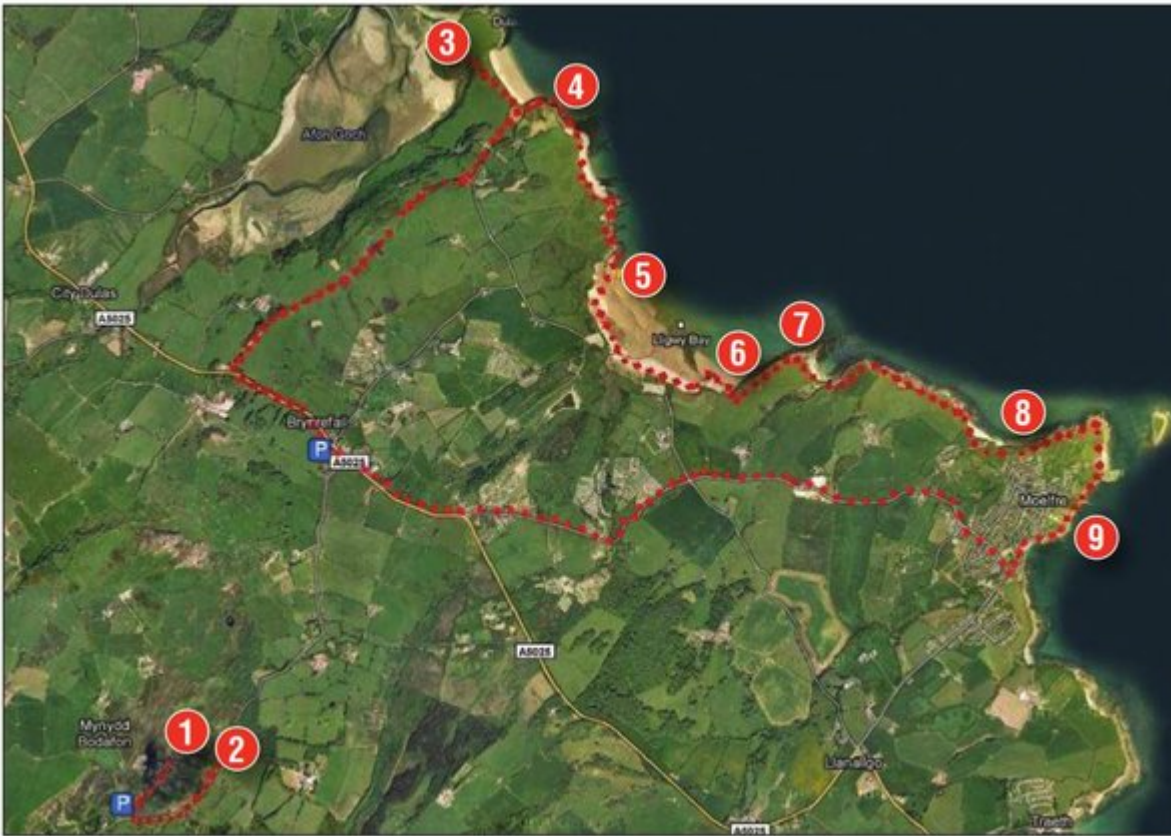
Ancient desert sandstones.

Porth Helaeth [8].

Limestone pavement [7].

Soil profile Mynydd Bodafon [1].

Moelfre [9].



Route map. Geotrail from Bodafon to Moelfre.



View from the top of Mynydd Bodafon [1].