
Geotrail from Lleiniog to Beaumaris

[Fully illustrated PDF](#)

[Welsh version](#)

A scenic walk in the South East of Anglesey, with fascinating geology and spectacular views across the Menai Straits.

Dr John Conway (GeoMôn & Royal Agricultural College)

Pictures: J. Conway, unless stated otherwise

Length: 3.5 miles

Time: 2 hours

Difficulty: Easy/Moderate (uneven terrain on the shore)

The shore may be impassable a couple of hours either side of high tide - please check the local tide tables.

This is a linear walk from Llangoed to Beaumaris. The walk starts at the village car park in Llangoed. You may wish to use public transport to reach the start point from Beaumaris, or to make your way back there at the end of the walk. For public transport information please contact Traveline Cymru on 0871 200 22 33 or go to www.traveline.info. Local bus timetables can also be viewed at www.anglesey.gov.uk.

From Llangoed take the footpath which follows the river Lleiniog down to Aberlleiniog Castle. The small Norman castle [1][SH 61616 79292] was built in 1090 on a "motte" of boulder clay. The valley was open water at the time and the castle would have been accessible by boat. but has long since silted up, helped by the continual slow rise of the land level since the ice melted — similar to the fate of Beaumaris castle.

The valley was originally cut through the glacial deposits immediately after the ice age when sea level was much lower — deposits on the foreshore [2][SH 62111 79081] contain peat and occasional tree debris (black waterlogged wood, or even tree stumps) drowned when sea levels rose dramatically about 8000 years ago. Maybe this event was the origin of folk tales about drowned lands around the Welsh coast?

We follow the coastline to Beaumaris; all the way the sea is eroding into reddish brown glacial deposits deposited by a massive ice sheet originating as far north as Scotland. The coastline here changes constantly due to erosion.

The first part of the shore is a section in horizontally layered reddish sediment (including a few bricks) — these are the present day river deposits. Note where these end against steeply dipping greenish grits, [3][SH 62123 78980] deposited by fast flowing rivers during the ice age. This boundary is an unconformity - where the present day river has eroded these older sediments and then deposited its own on top.

Carry on towards the large boulder of Carboniferous limestone [4][SH 61941 78750] carried by the ice from nearby Penman; this boulder contains evidence of ice smoothing and scratching [striations from pebbles included in the ice]. and evidence of pre-glacial solution weathering [called karst] in the form of deep grikes [dissolved out hollows and channels] reminiscent of limestone pavement features. You will see many other large boulders along the shore at low tide, all of Carboniferous limestone, left behind as the sea erodes the boulder clay.

Continuing along the coast, a small cliff grows to about 5m height in reddish brown deposits containing a variety of sizes of stones. This is variously known as Red Northern Drift or Irish Sea Till. Its colour comes from the extensive outcrops of New Red Sandstone on the floor of the Irish Sea, the included stones came from as far north as Ailsa Craig [a distinctive

outcrop of granite in the Firth of Clyde] making this is an excellent location to use erratics to demonstrate the reconstruction of ice flow. In fact. this is a fantastic beach to examine or collect pebbles.

Around the first small headland is a large block of Shap granite [5][SH 61940 78689] — Shap Fell is in the Lake District) amongst the boulders a few metres from the cliff. Just past this headland there are fragments of coal in the cliff face, indeed I have found some excellent coal plant fossils here but as the cliff erodes very rapidly you might have to search for coal elsewhere.

In places the deposit is an unsorted, unstratified till deposited by ice [6][SH 61933 78546], in other places it is clearly sorted, bedded and so deposited by meltwater streams.

You can follow this outcrop all the way to Friars Road [7][SH 61024 77348] if the tide allows but an increasing amount has been walled up to prevent erosion. The path follows the roadside here crossing concrete slipways remaining from wartime construction and launching of Catalina flying boats. Marker posts indicate where the oil pipeline crossed the Strait - they had hoped to excavate a trench using high pressure water jets to blow the sand out of the way, but they hadn't reckoned on the extent of the peat bed we saw at Lleiniog and had to use excavators to dig a trench instead. These had to scurry off barges at low tide and rush around like mechanical crabs before the tide came in again.

Round the far side of the bay, the path climbs a low rounded hill [8][SH 60908 76394]. Mountcliff — this is half of drumlin, a mound of glacial deposits shaped by the ice with a characteristic shape, the other half long eroded by the sea. Look carefully over the edge to see exposures of the brown earth soil which is one of the most fertile soils on the island. There is also an excellent view over the town of Beaumaris showing the land gained after the castle [9][SH 60731 76236] was built.

Figures

[See PDF](#)

Geotrail from Lleiniog to Beaumaris.

Aberlleiniog Castle sits on a motte constructed of boulder clay [1].

8000 year old tree remains in the buried peat beds [2].

Unconformity — where the present day river deposits (right) overly the ancient ice age sediments (left) [3].

Ice can carry rather large boulders! [4].

Shap granite (in foreground) carried by the ice from northern England. [5].

Unsorted glacial till overlying bedded and sorted river sediments [6].

The land has risen over a metre since Beaumaris Castle was built on the coast [9].



Geotrail from Lleiniog to Beaumaris.