
9 Barmouth to Hafotty mines

This is one of the popular walks out of Barmouth. The footpath starts with a flight of steep steps leaving the main road between the Last Inn and Porkington Terrace above the entrance to the railway tunnel [SH 6173 1559]. It runs (Figure 26) roughly north, on the east side of Garn, towards the Hafotty mines and curves west to Fronoleu Villas on the main road 2.5 km N of Barmouth; to the villas the path is about 7.5 km. It rises from sea level to a high point of 290 m OD at Bwlch y Llan. The steepest climb is at the start, where the path rises 90 m in 300 m. The path is well marked and offers some splendid views. It covers the same geological features as Excursion 2, but provides a better opportunity to examine the old manganese mines.

Locality 1 At the top of the steps, the old quarry to the west provides a nesting gallery for seagulls as well as a fine section through the top of the Barmouth Formation and the lower part of the Gamlan Formation. The Barmouth Formation, exposed on the west face, consists of thickly bedded, coarse-grained turbidites. The beds are well defined, and many of the characteristic features of turbidites may be examined. There are few interbedded siltstone beds but, in the overlying Gamlan Formation on the north-east of the quarry, banded siltstone and fine-grained sandstone are the main rock types.

The footpath from the quarry leads uphill towards Caefadog. The Gamlan Formation is exposed along the way.

Locality 2 [SH 6188 1688] A larger outcrop of banded siltstone and mudstone of the Gamlan Formation contains two very pale grey tuff beds, 1.5 and 3 cm thick. The beds are graded, and are interpreted as representing air-fall material that settled from a cloud of volcanic dust. This outcrop also illustrates the variation in the angle of the cleavage (refraction) in passing from coarse to fine-grained beds.

Pass through the gate, bear sharply south-west then north and follow the path uphill through the gate in the wall.

Locality 3 [SH 6186 1603] To the east of the path on the bend, a 50-cm thick, coarse-grained greywacke bed of a type which occurs locally interbedded with the siltstone in the Gamlan Formation is exposed.

To the north, the beds of the Barmouth Formation can be seen dipping steeply to the east in the crags on Garn, which contrast sharply with the gentler topography formed by the Gamlan Formation. The path lies close to the junction of the two formations.

Locality 4 [SH 6183 1606] A small tip marks the entrance to a vein in a quartz vein. The vein strikes obliquely across the junction of the two formations, is about a metre wide, and has in association numerous thinner veins cutting the adjacent country rock. Approximately 200 m to the north another small tip marks the location of a shaft [SH 6192 1631] which is probably within the same vein.

Northwards the path follows the junction of the Barmouth and Hafotty formations and provides excellent views of the surrounding mountains. Where the path joins the tarmac road, turn left. Uphill, the route traverses down the succession through the Barmouth Formation. Initially the beds are very thick, coarse-grained sandstones with little interbedded siltstone. Locally [SH 6191 1659] the sandstones are conglomeratic with quartzite pebbles up to 1.5 cm long. Lower in the sequence the rocks are finer grained, more obviously graded and the bedding is more clearly defined. West of the path a small peaty flat may represent an old lake. Beyond the gate [SH 6193 1683] the path continues on the Barmouth Formation. An examination of the crags shows a number of sedimentary cycles, determined on the variation in bedding thickness, grain size and presence of 'Bouma intervals' (p. 15). In each cycle the beds become thinner, there is more siltstone and the turbidites are more complete upwards.

The path crosses the base [SH 6170 1704] of the Barmouth Formation north-west of Gell Fawr.

Locality 5 [SH 6171 1707] At the crest of the hill the banded siltstone at the top of the Hafotty Formation is exposed. The grey siltstone includes thin, parallel- and cross-laminated sandstone, about 0.5 cm thick. Cleavage dips steeply to the

east, and is best developed in the finer-grained lithologies. The contact between the Hafotty and Barmouth formations follows the slack to the right of the path, which bears left through the walls. The grassy ground to the south, occupied by siltstone of the Hafotty Formation, contrasts markedly with the craggy features of the sandstone of the Barmouth Formation on the east and Rhinog Formation on the west.

Locality 6 [SH 6155 1724] A small trial exposes manganese-bearing shales of the Hafotty Formation, which are more thinly and evenly bedded than the adjacent shales. Cleavage and weathering have produced a rather hackly, broken exposure. The manganese shales contain spessartine nodules, and are distinctly weathered with a purplish brown parting. Along strike to the south another trial occurs in the ore-bed. As elsewhere along the western side of the Harlech dome, the manganese-bearing horizon is overlain by several greywacke beds.

The path continues to the north on the Hafotty Formation to the Hafotty Mine. The abandoned workings lie mainly to the west of the path and the remains of an incline [SH 6159 1779], which served the mines, can also be seen. On the skyline to the north a distinct V marks the position of the workings. The excavation, with associated tips, can be followed downhill along the outcrop.

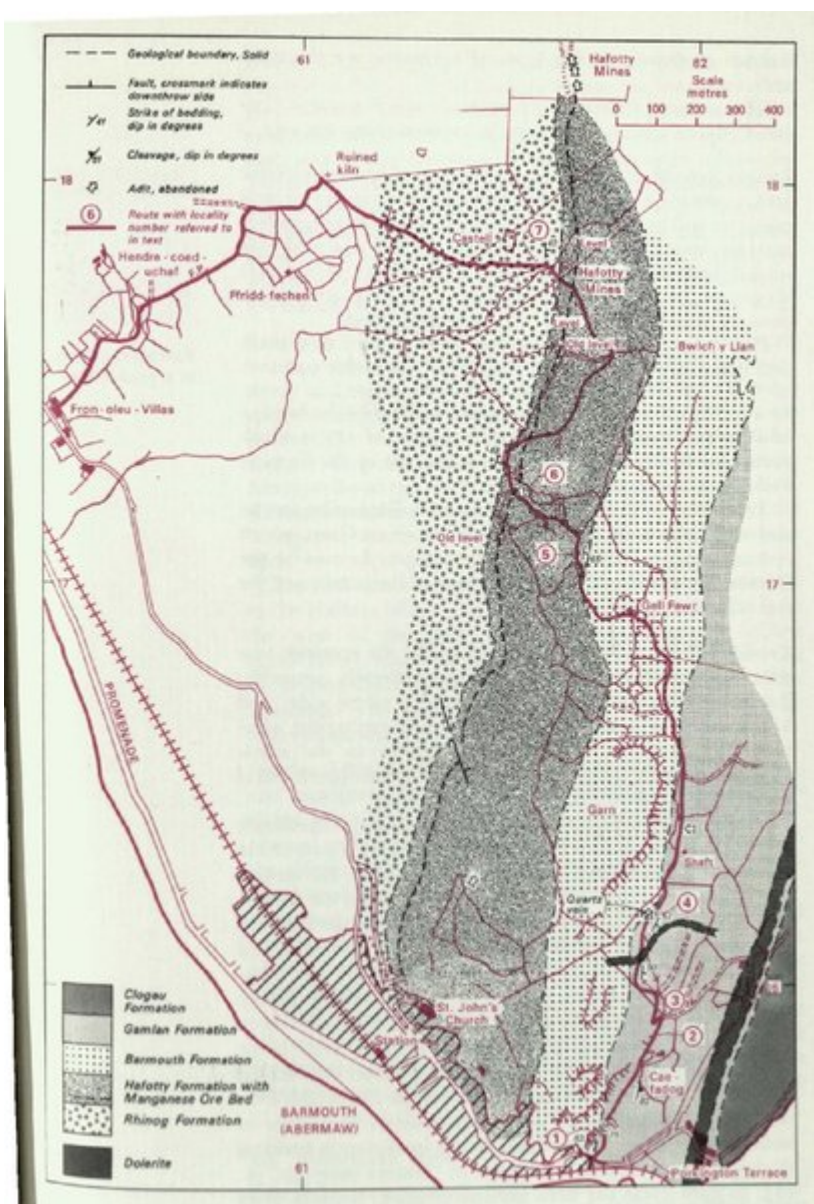
Locality 7 [SH 6159 1781] The path now descends the slope, and sandstones of the Rhinog Formation are exposed on either side. The sandstone is thickly bedded, very coarse-grained and includes many pink quartz grains in addition to the ubiquitous white quartzite grains typical of the lower formations of the Harlech Grits Group.

Farther downhill the formation is overlain by head and boulder clay, the latter moulded into a drumlin-like form on Ffridd Fechan. To the south-west a small peat-filled lake basin is visible.

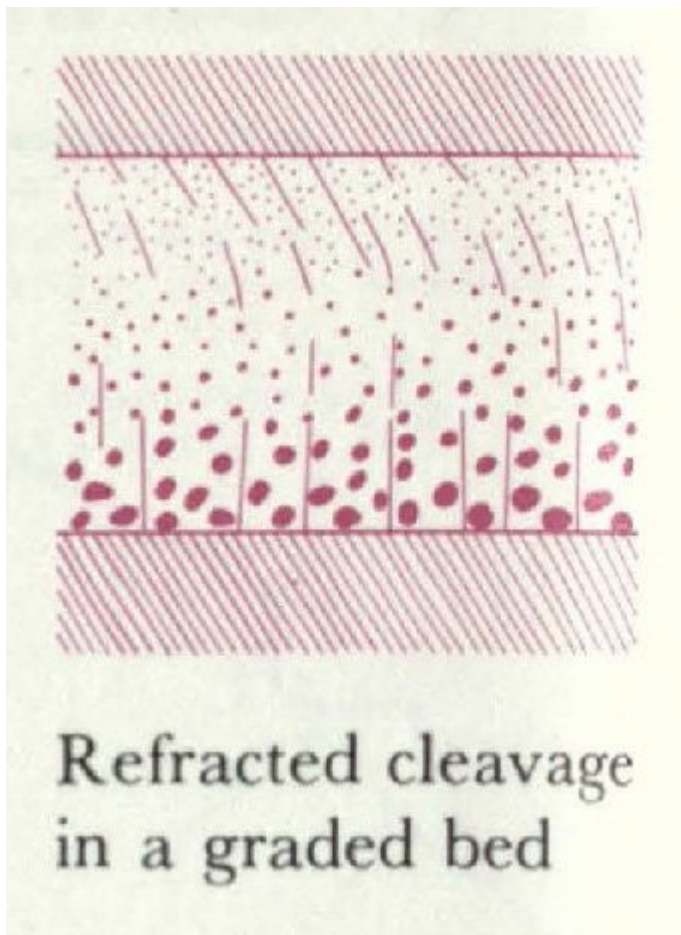
Following the old mine track downhill, the remains of a kiln can be seen just above the wall [SH 6106.1802]. The path descends to the main road. Turn left for Barmouth, but for a more pleasant walk turn right to the post-office and then left to return along the beach and the promenade to Barmouth.

(Figure 55) Refracted cleavage in a graded bed.

[References](#)



(Figure 26) Geology of the footpath from Barmouth to Hafotty manganese mines (No. 9).



(Figure 55) Refracted cleavage in a graded bed.