

WATERFORD - COUNTY GEOLOGICAL SITE REPORT

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| NAME OF SITE | Ballyquin Shore |
| Other names used for site | |
| IGH THEME | IGH 7 Quaternary; IGH 10 Devonian |
| TOWNLAND(S) | Ballyquin |
| NEAREST TOWN | Ardmore |
| SIX INCH MAP NUMBER | Waterford 38 |
| NATIONAL GRID REFERENCE | 220900 80230 |
| 1:50,000 O.S. SHEET NUMBER | 82 1/2 inch Sheet No. 22 |

Outline Site Description

Coastal section of bedrock on foreshore, and cliffs in unconsolidated deposits.

Geological System/Age and Primary Rock Type

Devonian sandstones and mudstones, with Quaternary tills overlying and thick deposits of postglacial head which is weathered rock fragments accumulations on lower slopes, as a result of periglacial freezing and thawing action.

Main Geological or Geomorphological Interest

At Ballyquin a small river valley exploits a fault line, with two different successions of rocks on each side, exposed in the foreshore. In addition there are two different types of unconsolidated deposits overlying the bedrock, exposed in the cliffs on either side of the fault line. The bedrock west of the valley in the fault line is called the Crows Point Formation and is probably early Carboniferous in age. To the east of it a colourful sequence of sandstone and mudstone rocks is seen. These are classified as the Ballyquin Member of the Gyleen Formation by geologists. The rocks are quite variable in colour, and with different features showing their original sedimentary environment. They are from the last part of the Devonian Period.

In the low cliffs west of the fault, two different units of subsoil may be seen. The subsoils at Ballyquin are mixed deposits of rocks, sand, silt and clay completely jumbled together. These were deposited below an ice sheet and are called "till". At Ballyquin a dark brown till, mostly composed of clays and with some shells, was deposited by ice which came onto the land from the sea. Overlying this is a paler rusty brown, more stony till from the last main cold period of the Ice age, where ice moved off the land towards the lower ground. These can be seen together in places despite the frequent slumps of the higher till over the more consolidated "Irish Sea" till at the base of the low cliffs. Active marine erosion of the cliffs means slumps and exposures will regularly change and slowly retreat the cliff line.

On the eastern side of the fault line, a different unconsolidated deposit forms vertical cliff faces up to 8m high. This is called head. It is a very stony deposit of weathered rocks fragments which have slowly slid and slumped downhill from higher ground and accumulated in lower slopes. They have principally moved under the influence of gravity combined with freeze-thaw cycles, mostly in the immediate post-glacial period around 10,000 years ago.

Site Importance

The site is of CGS importance but is under possible consideration for NHA status in the IGH 7 Quaternary theme.

Management/promotion issues

The site is publicly accessible from a beach car park at the eastern end, and via the local road in the fault guided valley. Aside from normal warnings about safety from cliff falls of rock (especially from the head cliffs) and caution with tides along foreshore settings, this site is one which could be promoted in publications, websites, and other ways.



The valley on the fault line.



Ballyquin Member channel beds.



The head deposits, east of the fault line valley.



Red mudstone rocks in the Ballyquin Member rocks, looking west.



The slumped tills west of the fault line valley.



