DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Doorin Point**
Other names used for site	Southeast coast of Doorin Peninsula
TOWNLAND(S)	**Drumaneary, Point, Raneely, Rock, Tullinlagan**
IGH THEMES	**IGH13 Coastal Geomorphology, IGH 11 Igneous Intrusions**
NEAREST TOWN	**Mountcharles**
SIX INCH MAP NUMBER	**98, 99**
ITM CO-ORDINATES	**582474E, 873559N**
1:50,000 O.S. SHEET NUMBER: 11	**GSI BEDROCK 1:100,000 SHEET NOs. 3, 4**
GIS Code DL012	

Outline Site Description
The site comprises bedrock exposures along a six-kilometre coastal stretch where the foreshore is backed by coastal cliffs.

Geological System/Age and Primary Rock Type
The foreshore and cliffs are composed of shale with subordinate interbedded sandstone of the Lower Carboniferous (345 Ma) Bundoran Shale Formation. At Blind Rock a thick dolerite dyke of Palaeogene (Tertiary) age forms a highly resistant barrier to marine erosion.

Main Geological and Geomorphological Interest
The southeast-facing coast of the Doorin Point peninsula forms part of the northern shores of Donegal Bay. There are low cliffs cut in the sandstone and shale alternations of the Bundoran Shale Formation. Coastal erosion has created shore platforms of various kinds, formed by abrasion or by weathering, in places strongly influenced by local structures, *e.g*. between Doorin Point and Murles Point on the south coast, where a wave-cut platform is exposed in gently-dipping sandstones at low tide.

Also of interest is the sub-vertical 30m-wide Blind Rock dolerite dyke which is intermittently exposed over a distance of c. 3km. It crops out on a prominent headland and continues inland for a kilometre, forming a resistant natural "wall" that is followed by field boundaries. This dyke has been interpreted as a composite feeder dyke that supplied now eroded, but formerly overlying volcanic rocks in several pulses of intrusion. In contrast, most other dykes of the same age in Donegal were intruded as a single individual pulse of injection ('flash' dykes). Contact metamorphism has altered the wall rocks to a hornfels for up to one metre around the dyke.

The site also provides very good exposure of the Bundoran Shale Formation, which comprises laminated grey shales, siltstones and shales with abundant fossils, including the trilobite *Proetida*. These rocks are interpreted as pro-delta sediments that formed offshore from the delta in deeper water. About 1.5km east of Doorin Point a pavement with large numbers of stromatolites, each up to 12mm across, has been reported.

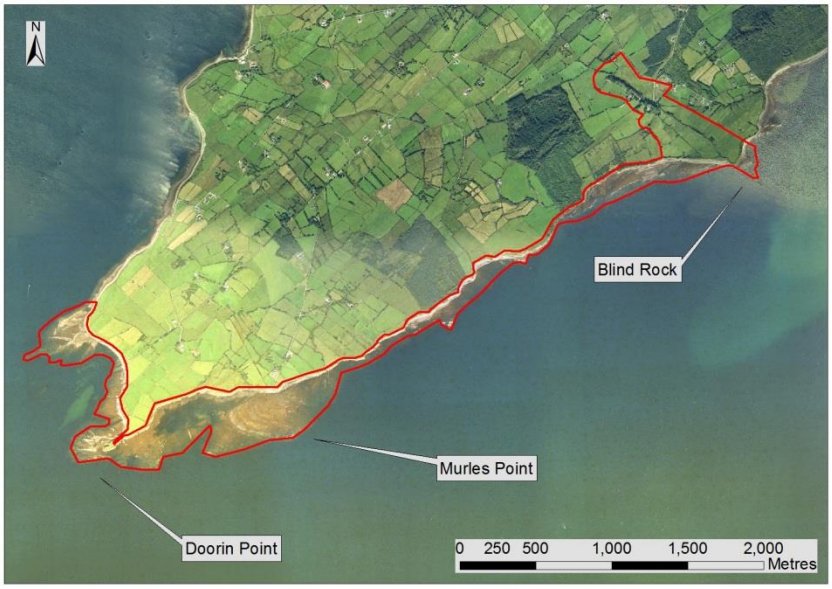
Site Importance: County Geological Site
The effects of coastal erosion are well demonstrated at the site, with the contrast between the platforms cut into the Bundoran Shale Formation and the resistant outcrop of the dolerite dyke providing a good example of how the composition of rocks influences the coastal geomorphology. The Blind Rock dolerite dyke is an uncommon example of a composite dyke and this is the best exposure of this type of dyke Ireland.

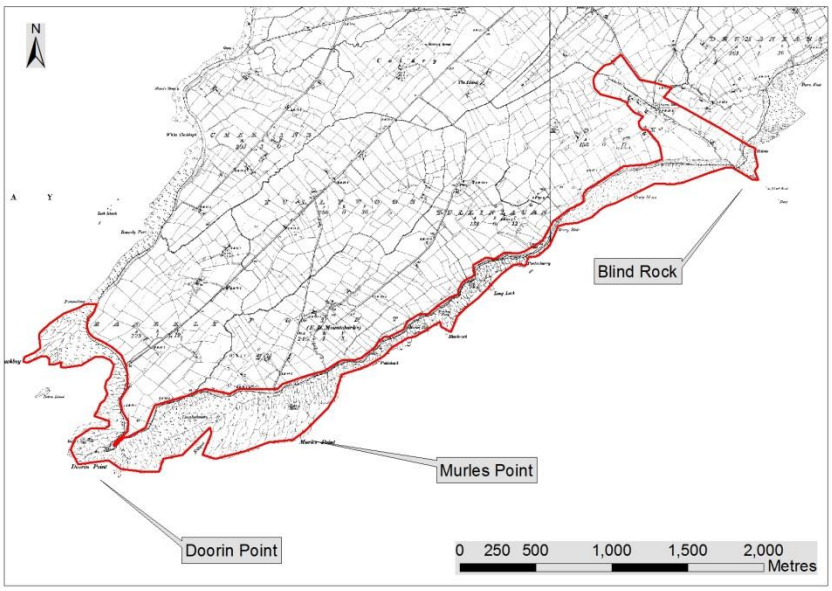
Management/promotion issues

Public roads reach the shore at four places so access is relatively easy. The cliffs are washed by high tides so shoreline explorers of some of the coves can become cut off. Developed with a footpath and information panel, the Blind Rock dyke and the associated souterrain at Rock could provide an interesting focus for tourism in the area.

Doorin Point: interbedded shales and siltstones of the Bundoran Shale Formation.

Blind Rock Dyke forming headland and extending eastwards into Donegal Bay.





McClure *et al.* 2019. Geological Survey Ireland.