

KERRY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Beginish Island
Other names used for site	
IGH THEME	IGH11 Igneous Intrusions, IGH10 Devonian
TOWNLAND(S)	Beginish
NEAREST TOWN/VILLAGE	Knightstown
SIX INCH MAP NUMBER	79
ITM CO-ORDINATES	441560E 578630N
1:50,000 O.S. SHEET NUMBER	83
GSi BEDROCK 1:100,000 SHEET NO.	20
GIS CODE	KY021

Outline Site Description

High rock cliffs on a small island in a natural harbour.

Geological System/Age and Primary Rock Type

The bedrock on Beginish Island comprises gabbro and dolerite intruded into slate and sandstone of the mid-Devonian Valentia Slate Formation (c. 385 million years old). The dolerite and gabbro are part of the Valentia Harbour Igneous Complex, considered to be close in age to the Valentia Slate Formation.

Main Geological or Geomorphological Interest

The mafic igneous rocks of Beginish Island were intruded as a sill within the Valentia Slate Formation, parallel to bedding, reaching a thickness of over 50 m. To the east, at Bealtra (see Bealtra County Geological Site report), volcanoclastic rocks that share a chemical affinity with the Beginish Island rocks were deposited on or just below the seafloor, indicating that they, and the Beginish Island dolerite and gabbro, were essentially formed at the same time as the enclosing Valentia Slate Formation.

The dolerite and gabbro on Beginish Island are the best exposed examples of Devonian igneous rock in County Kerry. On the western side of the island, the sharp contact between the Valentia Slate Formation and the overlying intrusion is well displayed in the cliffs. The cliffs on the northern side of the island contain the best exposure of the igneous rocks. These cliffs display columnar jointing that are among the most impressive examples in Ireland outside of the Giant's Causeway in County Antrim. The jointing includes typical vertical columns but also curved jointing where the columns appear to splay upwards and downwards from a sub-horizontal plane. This plane may represent an internal boundary within the sill, perhaps between two separate magma pulses.

Site Importance – County Geological Site

Beginish Island contains the most extensive and best exposed examples of Devonian igneous rocks in County Kerry. The spectacular columnar jointing exposed in the cliffs on the northern side of the island add considerable interest to the site.

Management/promotion issues

Beginish Island is accessible only by boat and, as such, under no specific threat other than coastal erosion. Portions of the site are within either the Iveragh Peninsula SPA (site code 004154), the Valentia Harbour/Portmagee Channel SAC (site code 002262), or the Valentia River Estuary pNHA (site code 001383), affording it some formal protection. The cliff exposures of columnar jointing can be observed only from the sea. Regular boat trips are available from Knightstown Harbour in the summer months.



General view of cliff section with well-developed vertical columnar jointing in Beginish Island dolerite/gabbro, on northern side of island.



Western end of Beginish Island, view to east: gently dipping (to north) beds of Valentia Slate Formation.



Contact between Valentia Slate Formation (yellow line) and Beginish Island dolerite/gabbro (above) at western end of island.



Close-up of contact between Valentia Slate Formation and Beginish Island dolerite/gabbro (above) at northwestern end of island. Note sharp contact and vertical structure in igneous rocks.



Well-developed columnar jointing in Beginish Island dolerite/gabbro sill on northern side of island, immediately west of main exposure of vertical jointing. The columnar jointing appears to be splaying downwards and upwards from a horizontal plane that may be a cooling boundary within the sill.

