

TIPPERARY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Rock of Cashel	
Other names used for site		
IGH THEME	IGH8 Lower Carboniferous	
TOWNLAND(S)	St. Patricks Rock	
NEAREST TOWN/VILLAGE	Cashel	
SIX INCH MAP NUMBER	61	
ITM CO-ORDINATES	607350E 640975n (centre of site)	
1:50,000 O.S. SHEET NUMBER	66	GSI BEDROCK 1:100,000 SHEET NO. 18

Outline Site Description

A prominent knoll of Carboniferous limestone on which is built an important Medieval monastic settlement.

Geological System/Age and Primary Rock Type

The site is entirely composed of Carboniferous limestone. It has been defined in Tipperary as the Hore Abbey Formation, part of the Viséan (early Carboniferous) of the “Golden Gulf” succession, found in the Cashel-Golden-Tipperary Town-Glen of Aherlow region.

Main Geological or Geomorphological Interest

The limestones of the “Golden Gulf” succession, found in the Cashel-Golden-Tipperary Town-Glen of Aherlow region, show characteristics of both shelf (or ramp) and basin environments and are poorly understood in detail. Good exposures, like at the Rock of Cashel are important evidence in better understanding for geological mapping. The district’s rocks comprise a variety of pale grey oolitic grainstones, dark grey wackestones and algal laminites. The Rock of Cashel is where the upper part of the Hore Abbey Formation is exposed and defined, with medium to dark grey skeletal packstones with algal stromatolites at one level and chert forming 20% of the rock at high levels. It is very similar to the Ballyadams Formation defined to the northeast of the area.

However, for the broader population, the Rock of Cashel is an iconic landform for the monastic ruins on a prominent knoll of exposed rock. The structure of the knoll is that of a southwestward dipping anticline whose eastern end is truncated by a fault structure. The movement on the fault has left rocks exposed at surface on the western side of the fault that are more resistant to erosion than the rocks exposed at surface on the eastern side. The fold structure as seen on the eastern side is that of a box fold. The top of the anticline (upfold) is flat whilst the sides are very steeply dipping.

Site Importance – County Geological Site

The site is an important tourist destination where it would be easy to demonstrate some simple geological ideas to visitors with additional interpretation, and its very existence as an iconic archaeological site is derived from the excellent geodiversity displayed here.

Management/promotion issues

The rocks beside the access road to the monastic ruins are easily accessible. The box fold structure can be appreciated by traversing the eastern side of the knoll below the Cathedral walls and seeing the dip of the rocks change but the path is narrow and the northern end is probably private farmland. Some serious work would be required to make this full traverse more accessible and safe for the numerous visitors to the site, but some relatively modest signage would interpret the southern end of the anticlinal box fold in the heavily tramped rocks beside the road. A geological leaflet on the site, training for guides in an additional element of interest for visitors could be provided very easily. Signboards would also be easy to develop here.



The Rock of Cashel classic view.



View from the car park, eastern side.



Vertical beds on the eastern side.



Near horizontal beds in centre of box-fold.



Steeply dipping beds on south side of the fold.



Same beds (as left) viewed from above.



The westward dip of the fold is visible here.



The southern side of the box fold is visible.



