

MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Portruckagh, Clare Island
Other names used for site	Doon Cloak, Oonaghdrishoge
IGH THEME	IGH4 Cambrian to Silurian
TOWNLAND(S)	Glen
NEAREST TOWN/VILLAGE	Clare Island
SIX INCH MAP NUMBER	85
ITM CO-ORDINATES	470680E 784620N (centre of features)
1:50,000 O.S. SHEET NO. 30	GSi BEDROCK 1:100,000 SHEET NO. 10
GIS Code MO087	

Outline Site Description

A sheep grazed promontory bounded by coastal cliffs, an east-facing rocky beach, a sheltered cove and sea-stacks.

Geological System/Age and Primary Rock Type

At least five different rock types and several faults are visible at the site. Bedrock varies from Cambrian-Ordovician age rocks of the Deer Park Complex, to the Ordovician Portruckagh Formation, to the Silurian age (previously interpreted as Cambrian-Ordovician age) rocks of the Louisburgh–Clare Island Succession (Strake Banded Formation, Glen Pebbly Arkose Formation, Kill Sandstone Formation).

Main Geological or Geomorphological Interest

The site exhibits contentious relationships between rocks of the Clew Bay Complex. The rocks include: schist and serpentinite (Deer Park Basement), gas breccias (Glen Pebbly Arkose Formation), purple and grey siltstones (Strake Banded Formation), sandstone and conglomerate (Kill Sandstone Formation) and pelites (Portruckagh Formation). The low-grade meta-sedimentary rocks of the Portruckagh Formation (and Ballytoohy Formation in the northern part of Clare Island) remain the subject of debate among geologists. Portruckagh Formation rocks have been compared with Silurian rocks exposed on the south side of Clew Bay (Killadangan Formation), rocks of the Ballytoohy Formation (exposed on the north part of Clare Island), and the Achill Beg Formation (on Achill Beg). Originally sandstone and mudrocks, the Portruckagh Formation rocks are now low-grade greenschists (graphitic and pyritic pelites). The rocks are strongly sheared. The nature of contact between the Louisburgh–Clare Island Succession rocks and the Portruckagh Formation is disputed: it being possibly an unconformable contact; or a tectonic (faulted) contact. The Deer Park Complex rocks (indicative of ocean floor material) exhibit evidence of several deformation events.

Site Importance – County Geological Site; may be recommended for Geological NHA

This County Geological Site is significant because of the variation of lithologies (rock types) that occur in such a confined coastal section, and also because the age and origin of the Portruckagh Formation remains the subject of debate among geologists.

Management/promotion issues

The site may be accessed from the Clew Bay Archaeological Trail and along the cliff-lined coast. Care should be exercised along this Atlantic-edge coastal section. Public/visitor information on the island's geological heritage could be provided alongside the existing birdlife/coastal erosion information board by the community centre. Promotion of the island's geological heritage could also be included in literature accompanying the Clew Bay Archaeological Trail.



The western cove viewed from the promontory at Portruckagh, looking east.



Contact (yellow line) between the Portruckagh Formation (left) and the basal conglomerate of the Kill Sandstone Formation (right).



Coarse sediments of the Glen Pebbly Arkose Formation on the north side of the beach, looking east.



Red and grey siltstones of the Strake Banded Formation, on the SE end of promontory, looking east.



The beach and eastern cove viewed from the promontory at Portruckagh, looking north.



Sea arches on the western promontory at Portruckagh.

