

NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Machaire Loiscthe
Other names used for site	Rosepenna, Rosapenna, Rosepenna Peninsula
IGH THEME	IGH5 Precambrian
TOWNLAND(S)	Rosepenna
NEAREST TOWN/VILLAGE	Na Dúnaibh
SIX INCH MAP NUMBER	16
ITM CO-ORDINATES	610806E 937387N
1:50,000 O.S. SHEET NUMBER 2	GSI 1:100,000 Bedrock Sheet No. 1
GIS Code ND036	

Outline Site Description

This site comprises rocks forming a low coastal cliff section above a sandy beach.

Geological System/Age and Primary Rock Type

The rocks are Dalradian pelites and quartzites of the Ards Pelite Formation, including the Transition Member, and Ards Quartzite Formation (Appin Group).

Main Geological or Geomorphological Interest

The earliest deformation (D1) recorded in the Dalradian rocks of north Donegal is a cleavage or schistosity subparallel to the bedding. This may be a late-Precambrian or early-Ordovician (Grampian) deformation. The Rosepenna Peninsula is significant as one of the few places in the Dalradian Appin Group of north Donegal where the S1 cleavage (the first identifiable metamorphic fabric) can be observed to cut the bedding, at a low angle, thereby demonstrating that this cleavage is a true deformation fabric and not a bedding plane schistosity. In the deep inlet (Door of the Ship Creek) mid-way along the cliff section, on the southeastern side, a 1m-thick lamprophyre sill can be observed below a large recumbent F2 syncline in the Ards Pelite Formation. At the entrance to the inlet, D2 folding and crenulation of the earlier cleavage is well displayed. The D2 deformation in north Donegal led to the formation of large-scale recumbent folds, including the Errigal Syncline, the trace of which runs just north of the peninsula.

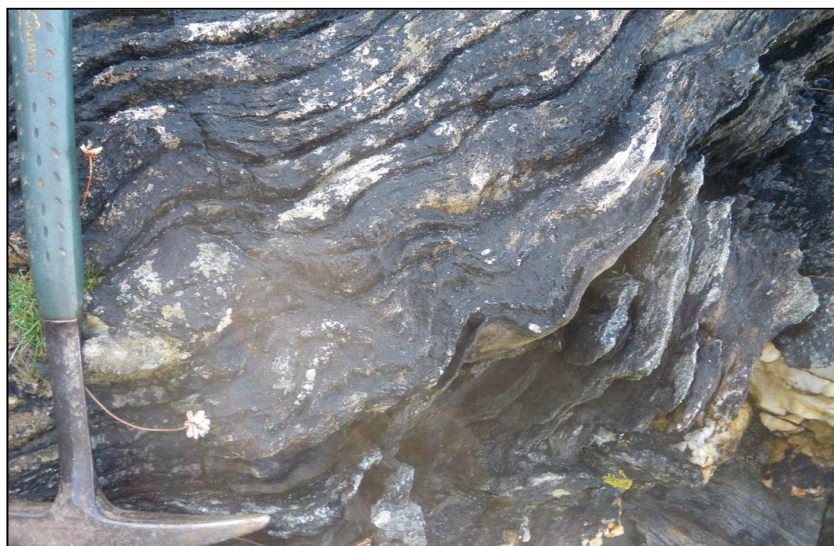
Across the peninsula, the passage northwards from Ards Pelite to Ards Quartzite Formation is marked by the appearance of thin quartzite beds within the former. The site provides an excellent exposure of the Transition Member, similar to that observed along strike to the southwest across the bay at Ards Friary (see Ards Friary report).

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

The site demonstrates that the S1 cleavage or schistosity present in the Dalradian of north Donegal is a product of deformation and is thus an important location for the interpretation of Dalradian deformation history. The site also provides good exposure of the Ards Transition Member, marking the passage from Ards Pelite to Ards Quartzite.

Management/promotion issues

The site is readily accessible from the north end of Trá Mór at the southern end of the Rosepenna peninsula. It is likely to be of interest primarily to professional geologists and students and does not require further promotion.



Fine S1 cleavage crenulated by D2 folds, Door of the Ship Creek, Rosepenna.



Ards Transition Member, Rosepenna Peninsula:
thin quartzite beds (cream-pink colour) in dark grey pelite.



Lamprophyre sill (bottom) below recumbent D2 fold in
Ards Pelite Formation, Door of the Ship Creek, Rosepenna.

