

SOUTH COUNTY DONEGAL - GEOLOGICAL SITE REPORT

NAME OF SITE	Naran Hill
IGH THEME	IGH11 Igneous Intrusions
TOWNLAND	Naran, Drumboghill
NEAREST TOWN	Portnoo
SIX INCH MAP NUMBER	64
ITM CO-ORDINATES	570813E, 898416N
1:50,000 O.S. SHEET NUMBER: 10	GSI BEDROCK 1:100,000 SHEET NOS. 3, 4
GIS Code DL031	

Outline Site Description

The site is a low hill of moorland and blanket bog with dispersed exposures representative of the diversity of rock types present in the intrusion.

Geological System/Age and Primary Rock Type

The Naran Hill appinite is intruded into the Upper Falcarragh Pelite Formation of the Dalradian Appin Group (deposited c. 800 to 750 Ma and metamorphosed between 475 and 385 Ma). The intrusion is part of the appinite suite associated with the Ardara granite and other early Donegal plutons (c. 400 Ma). The primary rock type is biotite diorite passing outwards gradually into hornblende diorite; zones of granodiorite are found in contact with country-rock pelite. The marginal breccia consists of clasts of country rock in a matrix of comminuted pelite.

Main Geological or Geomorphological Interest

The Naran Hill appinite intrusion is complex with a sequence of lithologies passing outwards through biotite diorite, hornblende diorite, appinite proper and granodiorite. These various rock types can be examined eastwards along the Naran Hill ridge. Good exposures of the diorite can also be seen in a small quarry beyond the Doon Lough entrance lane.

One of the most interesting features of this appinite intrusion is its marginal breccia, best seen at its western extremity, just east of Doon Lough. It is composed of rectangular blocks of minimally transported country rocks (Upper Falcarragh Pelite Formation banded schists) up to several metres in size. These and smaller fragments are oriented in every direction, and yet are remarkably tightly fitted together with virtually no matrix, in what has been called 'Inca wall' structure.

The marginal breccias can be seen above a roadside cottage and there are excellent exposures north of the road on Naran Hill. Other fine breccia exposures lie south of the Doon Lough boatman's house.

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

This appinite intrusion and its associated breccia is one of the larger of at least 20 appinitic intrusions and breccia pipes associated with the Ardara intrusion. Unlike the Kilrean Appenite and others, Naran Hill does not have an ultramafic or even notably basic core. It is particularly notable for the unusual 'Inca wall' texture in its marginal breccia.

Management/promotion issues

Almost the entire Naran Hill site is within the West of Ardara/Maas Road SAC and proposed NHA (00197). The landscape is very rugged and wet, serving as rough pasture for sheep, and there does not appear to be any significant threat to the site. The nature of this site is such that it is likely to be of interest mainly to geological students and researchers, rather than the wider public, so further promotion is not recommended.



Looking westwards towards Doon Lough with marginal breccia in foreground.



Marginal breccia, showing several blocks of country rock (banded schist layers) tightly fitted together ('Inca wall' texture).

