

## DONEGAL - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	Na Brocacha, An Bhrocaigh
Other names used for site	Brockagh
<b>IGH THEME</b>	<b>IGH11 Igneous Intrusions</b>
<b>TOWNLAND(S)</b>	<b>Brockagh</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Doocharry</b>
<b>SIX INCH MAP NUMBER</b>	<b>50</b>
<b>ITM CO-ORDINATES</b>	<b>584444E, 911430N</b>
<b>1:50,000 O.S. SHEET NUMBER: 1</b>	<b>GSI BEDROCK 1:100,000 SHEET NOS. 3, 4</b>
<b>GIS Code DL005</b>	

### **Outline Site Description**

Upland moor with extensive outcrop.

### **Geological System/Age and Primary Rock Type**

Caledonian Main Donegal Granite (biotite granite and granodiorite, 388 Ma) in contact with Thorr Granite (monzogranite to tonalite, 418 Ma).

### **Main Geological or Geomorphological Interest**

Abundant rafts of Dalradian metapelite and Thorr Granite are seen here as large inclusions within the Main Donegal Granite, close to its contact with the Thorr Granite. Very good exposures show concordant and discordant granite-raft contacts, deformation of Dalradian rocks and development of pegmatite and quartz veins close to granite-raft contacts. There are also metapelite rafts within the Thorr Granite.

These trains of rafts and xenoliths of Dalradian country rock, forming discontinuous, broadly linear zones, are striking features of the Main Donegal Granite pluton. The Main Donegal Granite was emplaced sheet-by-sheet into a major, active, left-lateral shear zone from which the granite's highly elongate shape is derived. Raft trains represent internal contacts of the granite sheets and range from less than a few metres to tens of metres in length. They are aligned parallel with the axis of maximum strain. The rafts are typically elliptical in shape and have sharp contacts with the enclosing granite, showing no evidence of chemical reaction.

### **Site Importance – County Geological Site**

The site at Brockagh contains numerous examples of these rafts, all well-exposed in a relatively small, accessible area which is a short walk from the end of a minor, surfaced road. It is an excellent demonstration area for these well-known features of the Main Donegal Granite. Most of the site, apart from its southern corner, is within the Cloghernagore Bog and Glenveigh National Park SAC and proposed NHA (02047), both designated primarily for the unspoilt bogland and related flora and fauna, as well as the Derryveagh and Glendowan Mountains SPA (04039).

### **Management/promotion issues**

The site is 100m beyond the end of the minor road near a bungalow and old farm buildings. It lies just beyond the walled fields in a privately owned area of open moorland used for sheep grazing. There appear to be no threats to the site in this sparsely populated area and most of it is protected as part of an SAC. There is limited space for parking on the narrow road in front of the farm buildings. The site is probably of most interest to students and specialists, but it could also be promoted through publications (including web-based) explaining the geology of Donegal.



View northwards across outcrops of Main Donegal Granite to the Thorr Granite underlying ground to west of view.



Brockagh: metapelite rafts in Main Donegal Granite showing discordant contacts between bedded metapelite and granite.



Quartz vein (white) cutting granite at contact between metapelite raft and granite (left) and pegmatite veins in granite (right).

