

## NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Rough Point Sill</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH11 Igneous Intrusions</b>
<b>TOWNLAND(S)</b>	<b>Pollaguill</b>
<b>NEAREST TOWN</b>	<b>Dunfanaghy</b>
<b>SIX INCH MAP NUMBER</b>	<b>15</b>
<b>ITM CO-ORDINATES</b>	<b>598861E 939427N (main outcrops)</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>2</b>
<b>GIS Code</b>	<b>ND032</b>

### **Outline Site Description**

The site consists of a wide, c. 600m-long sloping cliff exposure on the west side of the Horn Head peninsula, north of Dunfanaghy.

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

The rock is a metadolerite, intruded as a sill into the Ards Pelite Formation of the Precambrian Dalradian Appin Group. The metadolerite predates the later Caledonian deformation events of the Dalradian in Donegal and is itself likely to be Precambrian in age.

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

Metadolerite sills are a feature of the Donegal Dalradian Appin Group. They typically comprise laterally extensive bodies up to several hundred metres thick. Most studies have concluded that the dolerites are pre-tectonic and have undergone deformation during the Caledonian orogeny.

The Rough Point Sill is conformable to the bedding of the Ards Pelite Formation and, like it, is folded about a northeast-southwest anticlinal axis running through Pollaguill Bay. Various textural and compositional features indicate that the sill, like the enclosing Ards Pelite Formation, is here inverted, i.e. its upper part is structurally below its lower part, and that it is therefore older than the Caledonian deformation event that caused the inversion.

The northern limb of the anticline, between Pollaguill Bay and Mickey's Hole, provides an excellent, complete traverse through a 240 m perpendicular thickness of the sill with an opportunity to observe various features of the metadolerite intrusion, including the conformable contacts with the Ards Pelite and internal sill features such as compositional (mafic-felsic) banding, pegmatite bands and xenoliths of pelitic country rock.

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

This is an excellent exposure of a well-studied Dalradian metadolerite sill. Such sills are a feature of the Appin Group of the Donegal Dalradian and Rough Point provides a particularly good, complete section of the sill with excellent opportunity to observe its internal features and contact relationships.

### **Management/promotion issues**

The site is on sloping cliffs and access is via private, fenced farmland used for grazing sheep. There are no evident threats to the site. The site is immediately south of the exposure of the Horn Head Slide at Mickey's Hole and should be considered for inclusion in any promotional material for that site.



View north of Pollaguill Bay from east, Ards Pelite underlying lowland in foreground, high ground behind underlain by northern limb of metadolerite of Rough Point Sill.



Mafic (dark colour) and felsic bands in northern limb of metadolerite, 50m north of contact with Ards Pelite.



Northern contact between northern limb of sill (right) and Ards Pelite Formation.

