

DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE:	An Trá Bhán
Other names used for site	Trabane, Malin Beg, The Doon, Malin Beg Muds, Trabane Muds (Quaternary element)
IGH THEMES:	IGH7 Quaternary, IGH13 Coastal Geomorphology
TOWNLAND(S)	Malin Beg
NEAREST TOWN	Glencolumbkille
SIX INCH MAP NUMBERS	89
ITM CO-ORDINATES	549620E, 879879N
1:50,000 O.S. SHEET NUMBER: 10	GS1 BEDROCK 1:100,000 SHEET NOS. 3, 4
GIS Code DL047	

Outline Site Description

The site comprises steep rock cliffs flanking a coastal embayment. A marked gully east of the car park at Trabane has been plugged with muds and diamicts, which are interpreted as glaciomarine in origin. Sea caves also occur along the embayments in the area.

Geological System/Age and Primary Rock Type

A diamict, now 50 m above sea level, contains a derived fauna of marine shells, dated from last Glacial Maximum (26,000 to 10,000 years ago). The bedrock that flanks the embayment is part of the Dalradian Malin Schist Formation.

Main Geological or Geomorphological Interest

In excess of 10m thickness of glacial sediments is exposed at Trabane. The upper 3–5m-thick unit is brown, oxidised and decalcified, but the underlying 6m+-thick unit is grey and highly calcareous, containing many small fragments of marine shells.

The lower unit was originally interpreted by Colhoun as till, deposited either by an ice sheet that flowed north to south along the western Donegal coast, or that flowed southwestwards off Donegal towards Mayo. The material has more recently been interpreted as glaciomarine mud and diamict containing macro- and microfaunas, deposited from plumes and by debris flow at the margins of a large ice lobe centred in Donegal Bay. In this interpretation, the deposits would have been laid down well below sea level, and isostatically uplifted by 30–60m since glaciation.

The mud is overlain by angular, clast-supported breccia that is interpreted as head. Head is a heterogeneous deposit that forms as a consequence of mass downslope movement of material, mainly under periglacial conditions, i.e. under very cold, freeze-thaw conditions rather than full glacial conditions.

Of additional interest are the crystals of andalusite (Al_2SiO_5) (variety chiastolite), found locally in part of the Malin Schist Formation. Andalusite generally forms under conditions of contact metamorphism and these are interpreted to have formed within the metamorphic aureole of the offshore Rathlin O' Birne Granite.

Site Importance – County Geological Site

The site provides insights into the complex interaction of erosion, deposition and uplift since the last ice age.

Management/promotion issues

There is good access by road to Malin Beg, an excellent car park and good access to Trabane beach. More signposts are needed directing visitors to various places of interest and way-marked local walking routes provided. An explanatory signboard would help visitors appreciate the unique geology of the locality. The site is within the Slieve League SAC and proposed NHA (00189) as well as the West Donegal Coast SPA (004150).



Diamict in gully (centre) above Silver Strand



Sea cave within cliff at 'Pollnamona', on the eastern side of Trabane.

