

# GALWAY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Glentrasna Road</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH11 Igneous intrusions</b>
<b>TOWNLAND(S)</b>	<b>Glentrasna</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Maam Cross</b>
<b>SIX INCH MAP NUMBER</b>	<b>53</b>
<b>ITM CO-ORDINATES</b>	<b>497475E 740620N (road junction)</b>
<b>1:50,000 O.S. SHEET No. 45</b>	<b>GSI BEDROCK 1:100,000 SHEET NO. 10, 11</b>

## Outline Site Description

This site comprises low-lying terrain with rocky outcrops, adjacent to a minor road, and near a junction with the R336 Maam Cross-Casla road.

## Geological System/Age and Primary Rock Type

Igneous bedrock comprises Callowfinish Granite (Galway Granite Batholith), emplaced about 400 Ma during the Devonian. Ordovician metamorphosed igneous lithologies comprise amphibolite (metamorphosed gabbro) and orthogneiss, both part of the Metagabbro-Gneiss Suite, dated at about 470 Ma.

## Main Geological or Geomorphological Interest

This is a classic site to observe the contact between the Galway Granite and the Metagabbro-Gneiss Suite. The Metagabbro-Gneiss Suite occupies an east-west band through central Connemara, sandwiched between the Dalradian uplands to the north and the Galway Granite lowlands to the south. The granite was intruded into the Metagabbro-Gneiss Suite sometime around 410-380 Ma, towards the end of the Caledonian mountain building event.

The meta-igneous lithologies comprise dark-grey, hornblende-rich metagabbro and light-grey quartz-rich and feldspar-rich orthogneiss. The Callowfinish Granite is one of a variety of granite types that comprise the Galway Granite. A coarse-grained granite, it comprises pink potassium feldspars (orthoclase), some up to 3 cm long, all set in a groundmass of quartz, plagioclase feldspar, and biotite.

Outcrops of the granite display a 'flattened' fabric, the origin of which is attributed to the compression the partially solidified magma underwent when it was squeezed and emplaced into the Metagabbro-Gneiss country rock. The flattened fabric decreases in intensity as one proceeds southwards for several hundred metres onto the granite, away from the contact.

## Site Importance – County Geological Site

This County Geological Site is significant as it hosts an accessible and observable contact between two distinct geological foundations of the Connemara landscape: the Galway Granite Batholith and the Metagabbro-Gneiss Suite. The features at the site contribute to the understanding of the events and processes that occurred over 400 million years ago in the development of the west Connacht landscape.

## Management/promotion issues

This is an excellent teaching and research field site. The location has served as a regular 'stop' on geological field studies for Irish and overseas groups. The site does not require public promotion, and as the outcrops are on private land, overuse of the site is not to be encouraged. The site is well documented in geological guides to the region (e.g. A Geological Guide to the Granites of the Galway Batholith, Feely *et al.* 2006).



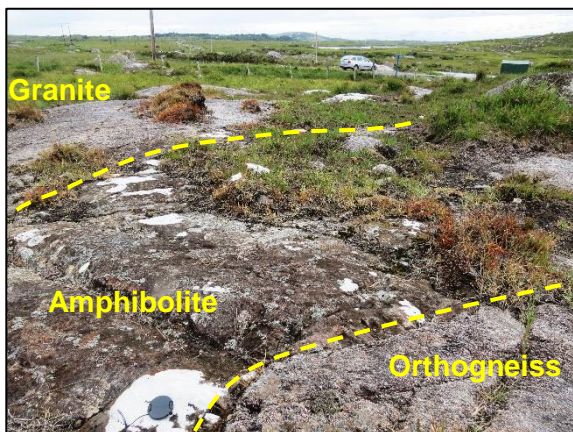
Orthogneiss outcrop. View looking southwest towards R336 road and Cuan Chamais (Camus Bay) in distance.



View looking east towards Glentrasna. Amphibolite-granite contact visible in contrasting bedrock lithology and colour.



Dark-coloured amphibolite.



View looking southwest towards R336 T-junction. Orthogneiss-amphibolite-granite contact visible in contrasting bedrock lithology and colour.



Terrain at Glentrasna, looking east towards Shannawona.



