

NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Moiréin Ghaoth Dobhair
Other names used for site	Gweedore Moraines, Lough Nacung Moraines
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Arduns, Meenderrygamph, Meenanillar
NEAREST TOWN/VILLAGE	Gaoth Dobhair (Gweedore)
SIX INCH MAP NUMBER	33, 42
ITM CO-ORDINATES	584000E 923200N (centre of features)
1:50,000 O.S. SHEET NUMBER 1	GSI BEDROCK 1:100,000 SHEET NO. 1
GIS Code ND020	

Outline Site Description

The Gweedore Moraines include a number of large accumulations of tills and sands and gravels, deposited at the edge of the southward-retreating ice margin at the end of the last Ice Age.

Geological System/Age and Primary Rock Type

The morainic complex is formed on bedrock of Precambrian quartzites and gneisses, but the features comprising the moraines themselves are Quaternary in age, deposited at the end of the last Ice Age.

Main Geological or Geomorphological Interest

The morainic complex includes a distinctive hummocky topography just south of Lough Nacung, and west/northwest of Gaoth Dobhair (Gweedore) Village. The land surface is formed of many small hummocks and marked hollows, usually overlain by peat of varying thicknesses.

The features are poorly exposed today but in the early to mid-2000s Claire Cullen logged many gravel pits from the area in detail. The topography reflects a wide range of depositional settings that resulted in ice-pushed ridges, hummocks and diamict ridges. Cullen has suggested that the morainic complex is an important component of the record of deglaciation of northwest Ireland.

Exposures into a high level bench at 140m above sea level on the side of Cronalaght Mountain shows basal lodgement and glaciotectonic processes, which operated at the base of the ice as it travelled across the mountain. Melt out tills have been recorded lower down, near Gaoth Dobhair Village, deposited from the melting ice sheet. A number of exposures into delta sediments records deposition into a much higher and more extensive Lough Nacung in the Gweedore Valley at the end of the last deglaciation.

The moraines are consequently important in unravelling the sequence of ice retreat across Donegal during deglaciation. The sands and gravels within the features are comprised chiefly of quartzites, gneisses and schists, with some granites.

Site Importance – County Geological Site

This system comprises a fine landform sequence and should be listed as a County Geological Site. The features are good examples of the haphazard, hummocky topography which forms at the retreating margin of a melting ice sheet.

Management/promotion issues

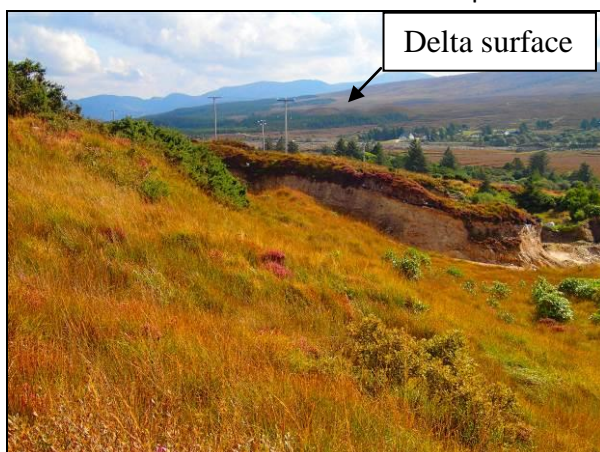
As the sediments are exposed in either abandoned or active quarries/pits they are not suitable for general promotion. The hummocks and moraines, as well as the gravel pits cut into them, are however readily visible from the R258 between Gaoth Dobhair and An Bun Beg.



View along one of the moraine ridges, at Meenanillar, across a gravel pit cut within it.



Melt out tills exposed in one of the pits in Meenanillar.



View across the Gweedore Valley, with the old delta surface visible in the distance.



One of the poorly exposed pits west of Gaoth Dobhair (Gweedore).

