

NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Ailt na Péiste
Other names used for site	Altnapeaste
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Knockfola
NEAREST TOWN/VILLAGE	Gort an Choirce (Gortahork)
SIX INCH MAP NUMBER	23
ITM CO-ORDINATES	582590E 934160N (centre of section)
1:50,000 O.S. SHEET NUMBER 1	GS1 BEDROCK 1:100,000 SHEET NO. 1
GIS code ND048	

Outline Site Description

This site includes a high coastal cliff section that extends for several hundred metres and is c. 8m-10m high over most of its extent.

Geological System/Age and Primary Rock Type

The cliff sections at Altnapeaste are comprised of Quaternary Age glacial sediments, deposited during deglaciation at the end of the last Ice Age. The basal portion along part of the section is cut into bedrock, which is the late-Silurian/early-Devonian (420-390 Ma) Thorr Granite. The granite is part of the Donegal Batholith, one of a number of plutons that comprise the various granite varieties occurring in northwest Ireland.

Main Geological or Geomorphological Interest

The cliff exposes sediments that are important to an understanding of deglaciation and relative sea levels in this part of Ireland during the end of the last Ice Age.

The exposure contains a number of glacial sediment facies, or units, deposited on a rock-cut platform. The glacial sediments are between 8m and 10m deep. Most of the units are dominated by gravels. On the land surface, the sediments make up low, linear ridges, which have been interpreted as moraine features.

The base of the section contains a unit less than a metre thick of well rounded cobble and boulder gravels. This has been interpreted as a raised beach deposit.

The sediments overlying this raised beach are unsorted and consolidated, and have been interpreted as having been deposited at the base of the ice sheet. Some of the sediments are slightly deformed, suggesting that the ice margin was oscillating as it deposited the material. The top of this unit is irregular and has been deeply channelled by glacial meltwater, and coarse gravels make up much of the area just below ground surface.

The evidence therefore suggests that ice had just vacated the offshore, sea area and retreated onto the land when the sediments at Altnapeaste were deposited. The flows have been studied in detail, and flows associated with the deposited sediments came from the south. The ice margin was therefore just to the south, and oscillating, when the materials were laid down.

Site Importance – County Geological Site

The section at Altnapeaste is important as its stratigraphy provides information on regional deglaciation and the section shows excellent examples of complex glacial sediment units.

Management/promotion issues

The site is accessible *via* the public beach and is therefore easily visited. The cliffs are high, however, and prone to slumping, and care must be taken when close to the faces. The importance of the section and the origins of the glacial sediments could be highlighted in a signboard at the site.



The western portion of the section at Altnapeaste, with the entirety of the cliffs being comprised of glacial sediments.



A portion of the weathered granite platform at Altnapeaste.

