LOUTH - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Barnavave Site B**
Other names used for site	
IGH THEME	**IGH11 Igneous Intrusions**
TOWNLAND(S)	**Grange Irish**
NEAREST TOWN/VILLAGE	**Carlingford**
SIX INCH MAP NUMBER	**8**
ITM CO-ORDINATES	**718229E 809081N**
1:50,000 O.S. SHEET NUMBER	**36 GSI BEDROCK 1:100,000 SHEET NO. 8/9**

Outline Site Description
The site comprises an outcrop on the lower eastern slope of Barnavave ridge immediately beside a Coillte forest and an adjacent small quarry.

Geological System/Age and Primary Rock Type
The outcrop comprises skarn, produced by thermal alteration of Lower Carboniferous limestone, and thin veins of syenite of the Palaeogene Carlingford Igneous Complex.

Main Geological or Geomorphological Interest
The outcrop consists mainly of grey, saccharoidal (sugar-like texture) skarn produced by thermal metamorphism of the Lower Carboniferous country rock after intrusion of granophyric microgranite of the Carlingford Complex. The skarn displays near vertical bedding in places, indicating up-doming of the country rock during granite emplacement. The skarn is also intruded by very thin veins of grey fine—medium-grained syenite, an alkali-rich intrusive rock. Nockolds has described the petrology of this rock. The syenite, present in the area only in small volumes, is considered to be a late-stage fractionate of the magma that produced the main granophyric microgranite at Carlingford. The syenite includes rounded xenoliths of dolerite.

30m southeast, across a low stone wall, a near-vertical dolerite dyke forms the northern boundary of a small quarry cut into the Carboniferous Limestone. The overhanging roof of the quarry is another dolerite intrusion, a sill emplaced along the east-dipping bedding plane in the limestone. The quarry was excavated to provide limestone for the now ruined lime kiln immediately south of the quarry.

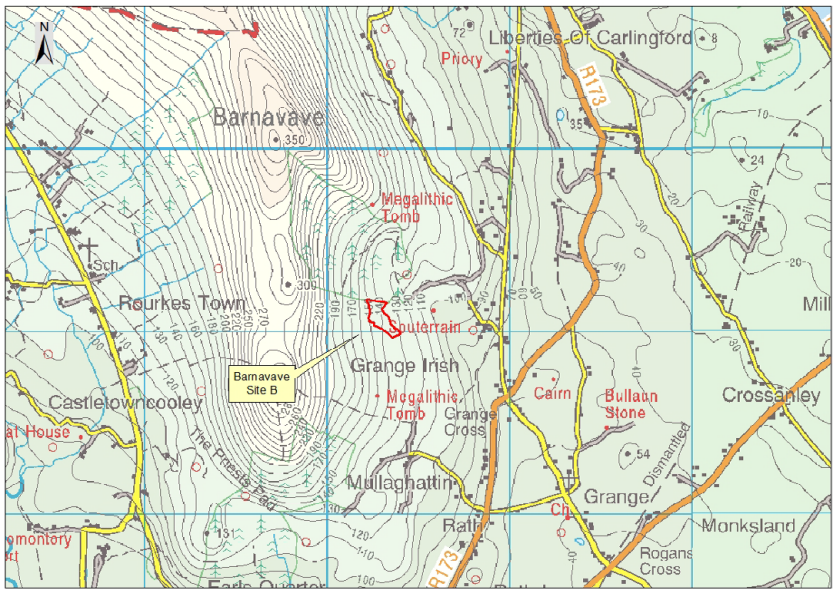
Site Importance – County Geological Site; may be recommended for Geological NHA
This site probably has the best exposure of the thermally metamorphosed Carboniferous Limestone at its contact with the eastern side of the Carlingford Igneous Complex microgranite. The presence of relatively rare syenite veinlets within it add to the interest. The limestone quarry affords an opportunity to observe two different kinds of dolerite intrusion, a dyke cross-cutting the limestone beds and a sill emplaced parallel to them. The adjacent ruined lime kiln is a reminder of the role played by limestone in local economies in previous centuries.

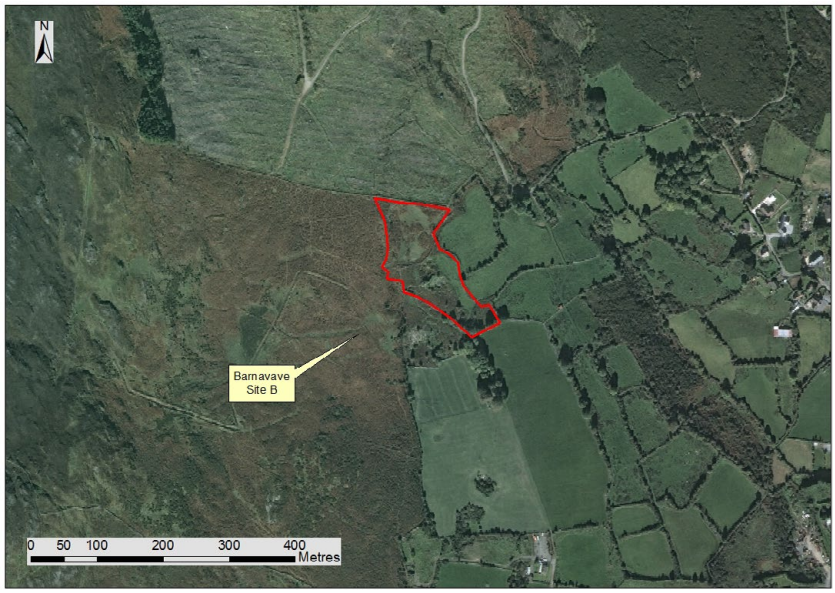
Management/promotion issues
The site is readily accessible from the entrance to the Coillte forest, much of which in the vicinity had been felled at the time of this audit. The area is part of the Carlingford uplands and is popular with walkers. The skarn outcrop is within the Carlingford Mountain SAC and proposed NHA. There are no apparent threats to the site and consideration could be given to erection of a signboard, perhaps in the vicinity of the forest gate, outlining the geology of the site.

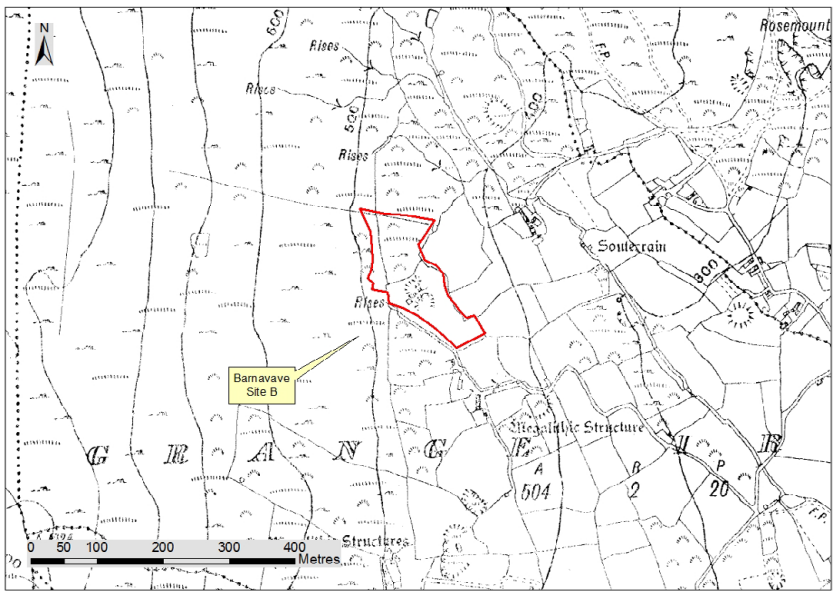
Barnavave B, outcrop of thermally metamorphosed limestone skarn (foreground).

Barnavave B: skarn showing folding, cleavage (left) and near-vertical bedding (right)

Barnavave B, limestone quarry with dolerite sill (top, right) and dyke (left, centre).


N
Barnavave
Liberties of Carlingford
Priory
R173
Megalithic Tomb
Sch
Rourkes Town
Souterrain
Barnavave Site B
Grange Irish
Megalithic Tomb
Grange Cross
Cairn
Bullaun Stone
Crossanley
Castletowncooley
House
Tree
Priests Bed
Mullaghattin
Grange
Dismantled
Rath
Monksland
Rogans Cross
Mill
Fairway


N
Barnavave Site B
0 50 100 200 300 400
Metres


N
Rises
Rosemount
Souterrain
Barnavave Site B
Megalithic Structure
GRANGE
504
0 50 100 200 300 400
Metres
Structures