LIMERICK - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Knockseefin**
Other names used for site	Knockseefin Hill
IGH THEME	**IGH8 Lower Carboniferous**
TOWNLAND(S)	**Lackanascarry, Gortnanuv, Glen, Knockgrean, Pallashill, Knocknacrohy**
NEAREST TOWN/VILLAGE	**Pallas Grean**
SIX INCH MAP NUMBER	**24**
ITM CO-ORDINATES	**575830E 645610N (church grotto)**
1:50,000 O.S. SHEET NUMBER 65	**GSI BEDROCK 1:100,000 SHEET NO. 18**
GIS CODE LK021	

Outline Site Description
Former quarry, now church grotto, at base of large hill.

Geological System/Age and Primary Rock Type
Limestone of the Herbertstown Limestone Formation overlain by basaltic (ankaramitic) lavas and tuffs of the Knockseefin Volcanic Formation. Both formations are Mississippian (Lower Carboniferous) in age.

Main Geological or Geomorphological Interest
Knockseefin Hill is the type locality for the Knockseefin Formation, the youngest of the two volcanic rock formations in the Limerick Syncline. It comprises stacked lava and tuff units that are interleaved with limestone beds in the east and north. The general disposition of the volcanic units, which at this site dip northwards towards the axis of the syncline, is well seen from the east. There are numerous outcrops of volcanic rock on the hill, part of which is included in this site, and the Linfield Quarry site displays spectacular columnar jointing. However, the most accessible exposure is the church grotto in Nicker where the contact between the Knockseefin Volcanic Formation and the Herbertstown Limestone Formation is well exposed.

In the grotto, the contact between the basalt lava and underlying well-bedded limestone is sharp and dips northwards. The base of the lava is finer grained, reflecting chilling upon contact with the limestone. Columnar jointing has developed in the lava to a limited extent, particularly in the southern part of the exposure.

Site Importance – County Geological Site
This site provides excellent exposure of Knockseefin Formation lava and limestone of the underlying Herbertstown Limestone Formation. More importantly, it is perhaps the best exposures of the contact between volcanic rock and limestone in the district. It is recommended as a County Geological Site.

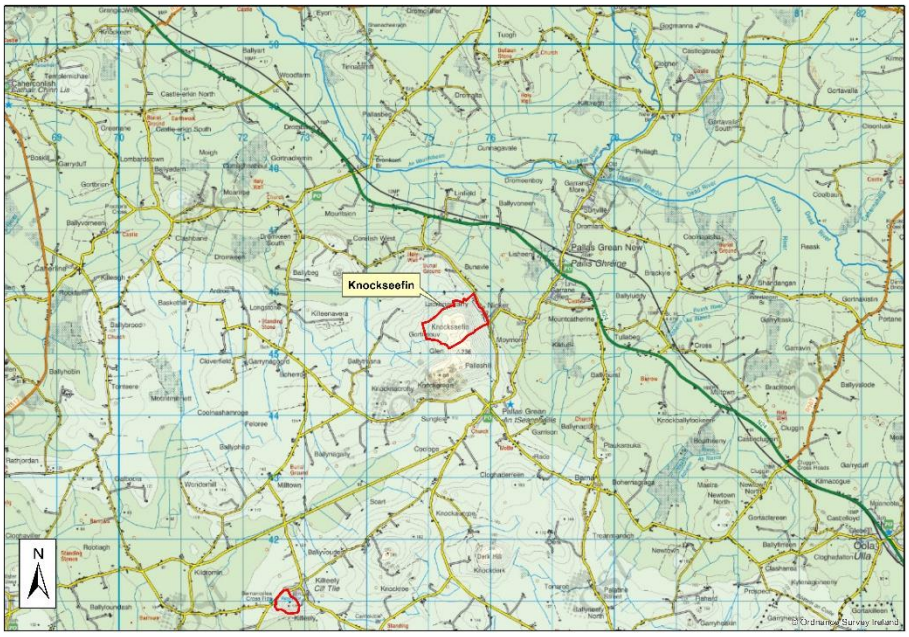
Management/promotion issues
The site is located in the church grounds and is incorporated into a grotto, widely signposted in the surrounding area. It could be incorporated into promotional material such as guidebooks or as a stop on a walking trail. More direct promotion, such as a signboard, might be in conflict with its importance as a religious site.

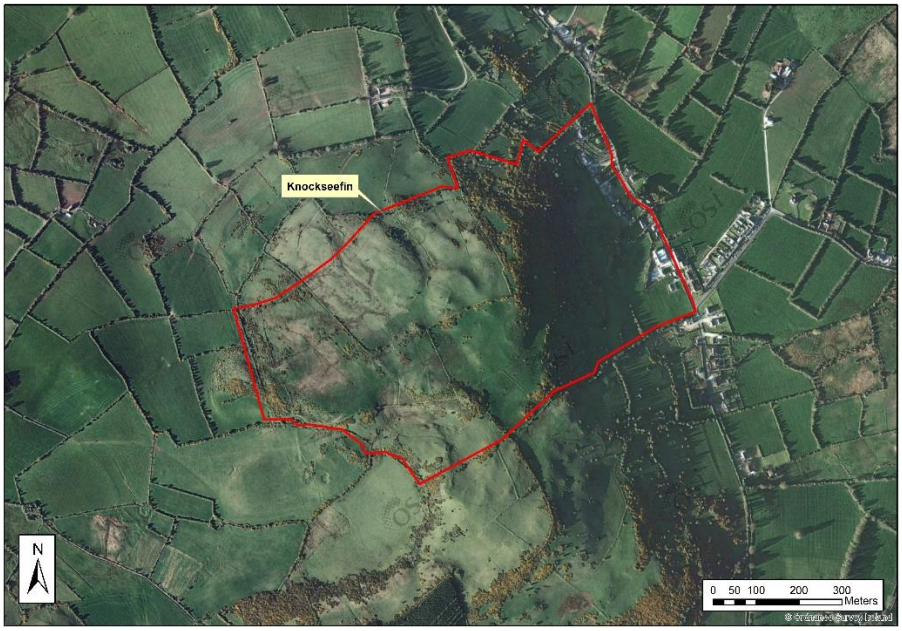
Grotto at Nicker Church. The contact between the lava and underlying limestone, almost level with the top of the grotto cave, dips north (to right).

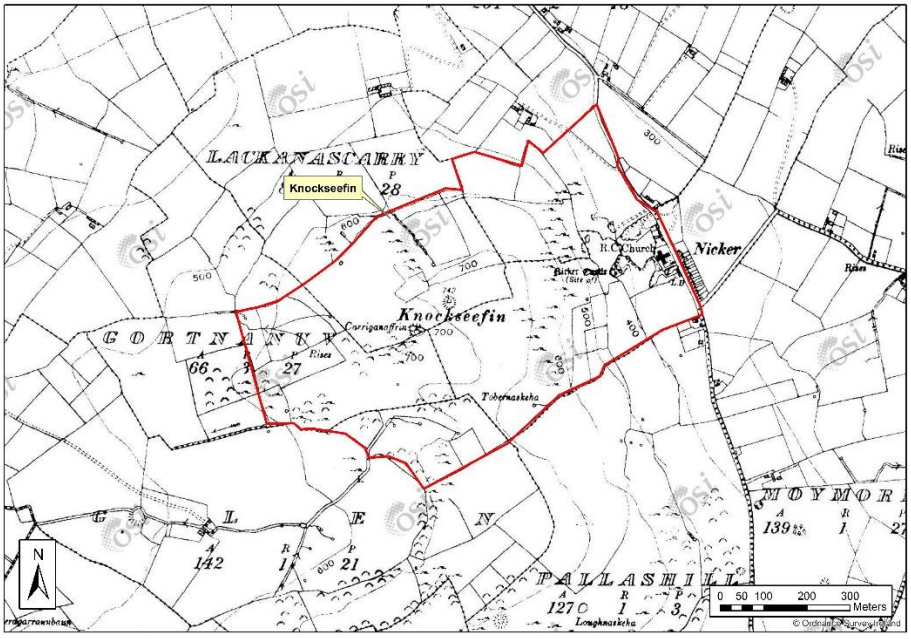
Limestone-basalt contact, immediately above reddened limestone.

Southern part of grotto showing development of columnar jointing in basalt (top).

View of Knockseefin Hill from the east: stacked volcanic units dip north (to right) towards centre of syncline.







Meehan et al., 2021. Geological Survey Ireland.