

TIPPERARY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Borrisnoe and Cloncannon	
Other names used for site		
IGH THEME	IGH2 Precambrian to Devonian Palaeontology, IGH4 Cambrian-Silurian	
TOWNLAND(S)	Cloncannon, Borrisnoe	
NEAREST TOWN/VILLAGE	Roscrea	
SIX INCH MAP NUMBER	22	
ITM CO-ORDINATES	604850E 678300N (centre of site)	
1:50,000 O.S. SHEET NUMBER	59	GSI BEDROCK 1:100,000 SHEET NO. 18

Outline Site Description

Roadside quarry and farm/forestry trackside exposures, forested hillside.

Geological System/Age and Primary Rock Type

The rocks are Silurian in age, defined as the Cloncannon Formation.

Main Geological or Geomorphological Interest

The Cloncannon Formation at Borrisnoe, at the northern end of the Devilsbit Mountain range of County Tipperary includes an internationally important plant fossil locality. From here Edwards and Feehan recorded the earliest known record of vascular land plants in the mid Silurian in 1980. The Cloncannon Formation is well dated as of the late Wenlock *ludensis* Biozone and there are graptolites recorded from above and below the plant fossil site confirming the age. Edwards described the *Cooksonia* species present, and noted trilete spores, which may be related, but this could not be confirmed. The fossils are preserved within laminated siltstones, considered to be the distal or marginal parts of a submarine fan turbidite system, and the plant fossils have been transported from their original source, but are considered to be the earliest known erect vascular plants.

A small assemblage of graptolites and associated rare epifaunal bivalves and other fauna has also been recovered from a roadside quarry on the western edge of the site. The fossils are rare, and the graptolite species *Monograptus ludensis* and *Monograptus auctus* in particular indicate the *ludensis* Biozone, of the latest Wenlock, Silurian, making it the youngest part of the inlier, and unusual in that virtually all the other greywacke Silurian inliers in the Midlands of Ireland are largely within the *lundgreni* Biozone of the Wenlock.

The bulk of the site is owned by Coillte, and the original research was based on a trench dug by the forestry staff for the purpose. A large area should be designated as an NHA in recognition of the international importance of this fossil locality, and to ensure future research is possible. In order to maintain any usefulness the trackside section would need to be cleared of vegetation, but similar graptolites and associated fossils may potentially be found in almost any new opening or exposure in the Cloncannon Formation within the site.

Site Importance – County Geological Site; recommended for Geological NHA

This site is the best representative section currently available for the display of the geological interest, which is the earliest known record of vascular land plants. The site has already been recommended to NPWS for Geological NHA status.

Management/promotion issues

The exposures are only of use for examination if kept open and may require future clearing. However, with forestry areas there is often new ground works and any new excavations for track making or forestry etc. should be notified to Geological Survey Ireland to allow examination whilst fresh.



Cloncannon Formation beside forest road.



New forest roads provide fresh exposures.



Original *Cooksonia* trench was in this area.



Stream gullies are hard to access but some are the historical fossil localities.



View of Borrishoe Mountain.



Main access point to forest roads.

