

KILKENNY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Danesfort M9 Cutting
Other names used for site	
IGH THEME	IGH 8 Carboniferous
TOWNLAND(S)	Croan (southern four fifths), Danesfort (northern tip)
NEAREST TOWN	Bennettsbridge
SIX INCH MAP NUMBER	Kilkenny 23
NATIONAL GRID REFERENCE	252345 247443 to 252287 147354 (E side, S cut) 252476 247631 to 252353 147455 (E side, central cut) 252495 247655 to 252484 147638 (E side, N cut) 252430 147620 to 252271 147393 (W side)
1:50,000 O.S. SHEET NUMBER	67 1/2 inch Sheet No. 19

Outline Site Description

A road cut, approximately 350 m long, on the M9 motorway, just north of junction 9.

Geological System/Age and Primary Rock Type

The rocks are limestones of Carboniferous age (approximately 330 million years). They are part of the Butlersgrove Formation.

Main Geological or Geomorphological Interest

The dominant feature of this cutting is the extensive evidence of limestone dissolution in the bedrock. A range of features occur, some of which were formed at the same time or very shortly after the lime sediments were deposited, around 330 million years ago. Others are much later features which developed only in the last 10,000 years since the Ice Age.

The older features are highly convoluted bed surfaces, with dimpled surfaces of 1-2 cm height. They are often coated with a veneer of pinkish coloured clay. These may have been caused by periods of emergence of the sediment above the sea, with weathering and soil formation taking place. It is perhaps more likely that they are features called stylolites, where the clay is a residue of insoluble material from the dissolving of limestone. If this is the cause, it probably happened during the conversion of soft wet sediment into hard rock.

Later karstification, which has probably occurred in the last few thousand years, is evident in many expanded joints, and some larger cavities, with a brown staining typical of such weathering. There may also be a karstic doline seen on each side of the cutting, right within the rock cliffs. Dolines are enclosed depressions, sometimes filled with unconsolidated sediments. Engineers have left short grassy slopes over the sediments. An additional feature of interest is a small syncline (downfold), bounded on each side by faults, which disturbs the regular dip of the limestone beds to the south.

Site Importance – County Geological Site

The site is of County Geological Site importance as a well exposed, scientifically useful long representative section of Carboniferous limestone in Kilkenny. It shows many different features such as karstic solution and faults, compared with other sites selected in this audit. This site complements Archersgrove Quarry and Bennettsbridge Quarry, in representing the formation. Further comparisons by experts in Carboniferous limestone geology may indicate this site is of national importance as representative of otherwise very poorly exposed Carboniferous stratigraphy in the southeast of Ireland.

Management/promotion issues

This road cutting is completely unsuitable for any general public visits as it is on a motorway. The GSI will liaise with the NRA, the County Council and appropriate authorities to discuss appropriate options for dissemination of information about the geological interest of the site.



General view at north end, looking south.



General view looking north.



A possible karstic doline on eastern side.



Detail of a typical karstified bedding surface.



View of small syncline with faulted sides.



Detail of a typical karstified joint surface.