

# KILKENNY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Danesfort M9 Cutting</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH 8 Carboniferous</b>
<b>TOWNLAND(S)</b>	<b>Croan (southern four fifths), Danesfort (northern tip)</b>
<b>NEAREST TOWN</b>	<b>Bennetsbridge</b>
<b>SIX INCH MAP NUMBER</b>	<b>Kilkenny 23</b>
<b>NATIONAL GRID REFERENCE</b>	<b>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)</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>67                      1/2 inch Sheet No.    19</b>

## **Outline Site Description**

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

## **Geological System/Age and Primary Rock Type**

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

## **Main Geological or Geomorphological Interest**

The dominant feature of this cutting is the high degree of solution 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 simply 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. It is 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; an enclosed depression filled with unconsolidated sediments behind the short grassy slopes, seen on each side of the cutting, right within the rock cliffs. Engineers have left to soft material as grassed slopes.

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, long representative section of Carboniferous limestone in Kilkenny. It shows many different features from other sites selected in this audit. Further comparisons by experts in Carboniferous limestone geology may indicate this site is of national importance as representative of otherwise very poorly exposed 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.



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.

