

# KILKENNY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>King's River M9 Cutting</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH 8 Carboniferous</b>
<b>TOWNLAND(S)</b>	<b>Rathduff (Bayley)</b>
<b>NEAREST TOWN</b>	<b>Kells</b>
<b>SIX INCH MAP NUMBER</b>	<b>Kilkenny 27</b>
<b>NATIONAL GRID REFERENCE</b>	<b>251067 143250 to 251002 143526 (east side) 251034 143254 to 250975 143525 (west side)</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>67                      1/2 inch Sheet No.    19</b>

## **Outline Site Description**

This is a 280m long road cutting on the M9 motorway, starting on its northern end at the King's River bridge.

## **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 cutting exposes an excellently displayed section of Carboniferous limestone, probably of Upper Viséan age. It is noticeably prolific in white blobs of the mineral calcite (of the same composition as the limestone itself, but in a crystalline form) which may have been developed during the conversion of lime sediment into hard rock (a process called diagenesis).

The bedding is poorly developed in close examination but in a wide view, it shows some large but shallow folds in the rock, with a paired anticline (an upfold or arch shape) and syncline (a downfold or dish shape).

On the western face especially a sharp contrast is visible in the rock. One particular bedding plane acts as a barrier to water passing down the joints and bedding planes in the rock. From the line and below streaky stains are evident where water, mud and minerals are emerging and then flowing over the rock face. This barrier may be a clay horizon derived from soil formation or a volcanic ash fall.

## **Site Importance – County Geological Site**

The site is of County Geological Site importance as a well exposed representative section of Carboniferous limestone in Kilkenny, where it is otherwise very poorly exposed. 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.



A view looking north of the King's River cutting with obvious folding on the right hand (east) side.



A view of the west side of the cutting clearly showing the changes in bedding half way up the face and the lime stains of water flows from the bedding plane of the junction.

