

## CORK - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Ballygarvan Quarry</b>		
Other names used for site	Roadstone Ballygarvan		
<b>IGH THEME</b>	<b>IGH8 Lower Carboniferous</b>		
<b>TOWNLAND(S)</b>	<b>Killanully, Kilnahone</b>		
<b>NEAREST TOWN/VILLAGE</b>	<b>Carrigaline</b>		
<b>SIX INCH MAP NUMBER</b>	<b>86</b>		
<b>ITM CO-ORDINATES</b>	<b>569500E 563800N (centre of quarry)</b>		
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>87</b>	<b>GS1 BEDROCK 1:100,000 SHEET NO.</b>	<b>25</b>
<b>GIS CODE</b>	<b>CK013</b>		

### Outline Site Description

This site comprises an extensive quarry cut into a long, prominent, steep-sided limestone ridge, which is flanked on two sides by glacial meltwater channels.

### Geological System/Age and Primary Rock Type

The bedrock comprises four discrete Lower Carboniferous (Mississippian) 359-323 Ma) rock units; the northern faces of the quarry are cut through fossil-rich limestones of the Little Island Formation, deposited as mudbank limestones and crinoidal wackestones. These overlie shale-free limestones of the Ballysteen Formation which is in turn overlain by Loughbeg Formation limestones within the main quarry area. At the western face, laminated mudstones of the Courtmacsherry Formation are also exposed. The ridge has been shaped and moulded during the Quaternary Period (Ice Age), both by glacier ice abrading the ridge top and flanks, and by meltwater eroding channels on either side of the feature.

### Main Geological or Geomorphological Interest

Ballygarvan Quarry has been operational since the 1970s, and produces stone for aggregates, chippings, lime dust, screenings, and drainage stone. The quarry is up to 45 m deep and the rock units exposed are heavily faulted.

In the western face, 3 m thick of calcareous, laminated mudstones of the Courtmacsherry Formation are seen, which again passes up to 31 m depth of blue-grey crinoidal packstones of the Ballysteen Formation. These are in turn overlain by the chert, sooty-black shale, siliceous calcilutite and crinoidal calcarenites of the Loughbeg Formation. The calcilutites here contain a significant proportion of breccias, although these are difficult to see on the shattered face, and more easily seen on loose blocks at the base of the quarry, particularly when these are wet. At the top of the sequence, massive and crinoidal fine limestone of the Little Island Formation is exposed in the main quarry face.

No intervening units of Waulsortian Limestone bedrock are observed between these units in any of the quarry faces at Ballygarvan.

### Site Importance – County Geological Site

This County Geological Site is an important representative site exhibiting fresh exposure of heavily faulted limestone from a variety of palaeoenvironmental settings, with a number of units exposed.

### Management/promotion issues

The site is securely fenced off within its own compound, and the quarry is not particularly suitable for general promotion, especially as the base of the quarry is currently active and very deep. Many of the rock faces are high, and in parts they are unstable. Ballygarvan Quarry is likely to be of interest primarily to geologists only.



A panorama of Ballygarvan Quarry, viewed from the west.



The main floor of the quarry, where limestone units of the Ballysteen, Loughbeg and Little Island Formations are all seen in the northern (left) face.



