

## LEITRIM - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Carrickbaun Quarry</b>
Other names used for site	Carrickbyrne Quarry
<b>IGH THEME</b>	<b>IGH8 Lower Carboniferous</b>
<b>TOWNLAND(S)</b>	<b>Carrickbaun</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Drumshanbo</b>
<b>SIX INCH MAP NUMBER</b>	<b>23</b>
<b>ITM CO-ORDINATES</b>	<b>598675E 810710N</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>26</b>
<b>GIS CODE LM005</b>	<b>GSI BEDROCK 1:100,000 SHEET NO. 7</b>

### Outline Site Description

This is a small, disused quarry cut into mudbank limestones.

### Geological System/Age and Primary Rock Type

The bedrock is of Mississippian (Lower Carboniferous) 'Arundian' mudbank limestone (c. 330 Ma).

### Main Geological or Geomorphological Interest

Marine mudbanks are biosedimentary build-ups, which are part of either a bacterial or algal mat, or coral reef system, that are dominated by fine-grained carbonates that take up more than 50% of the rock volume. During the Carboniferous Period in Ireland, when our land was inundated by an ocean, mudbanks nucleated on inundated coastal levees and mangrove swamps. Mudbank cores are composed of layered mudstones reflecting an early history of physical sedimentation within the mound / bank.

Stratigraphically, the main carbonate mudbank intervals in Ireland are the Waulsortian and the Asbian banks. Both of these were historically well represented throughout the country, and there are still abundant Waulsortian localities and quarries, from places such as the Little Island Formation in Cork, and several exposures and quarries in Asbian mudbanks also (e.g. Quinn Cement at Swanlinbar).

At Carrickbaun, the mudbank limestone is different to those two main types outlined above, as the Arundian mudbank is stratigraphically halfway between the Waulsortian and the Asbian banks. Part of an Arundian mudbank is exposed and this records deposition in a shallow environment, with *in situ* carbonate mud accumulation preserved. The western face is perhaps the most important as it is at right angles to strike and the full depositional sequence was formerly exposed. Bedding is currently faint (July 2020) and somewhat difficult to make sense of, but with new exposure in the future, a significant part of the sequence might be exposed.

### Site Importance – County Geological Site

Carrickbaun is possibly the sole example remaining in Ireland of a quarry with accessible exposures of this rare Arundian Mudbank facies (rock unit). Owing to this, and despite relatively poor exposure, it is most deserving of County Geological Site status.

### Management/promotion issues

The Arundian Mudbank is exposed in a small quarry, which was (as of July 2020) in a poor state. The pit has been disused for some time, and is a dumping ground for vehicles and rubble. There is one relatively intact face, at the southern end, but the western face has been mostly covered over. General promotion is not recommended, and the site will probably remain the preserve of limestone enthusiasts, and as the site is on private land there should be no entry without owner permission.



View across Carrickbaun Quarry, from the eastern end.



The mudbank structure of the southern face.



Faint bedding exposed in the western face.



Bedding at the low, northern outcrop in the quarry.



