

# LONGFORD - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Mullawornia Quarry</b>
Other names used for site	Terlickeen, Tirlickeen
<b>IGH THEME</b>	<b>IGH8 Lower Carboniferous, IGH3 Carboniferous - Pliocene Palaeontology</b>
<b>TOWNLAND(S)</b>	<b>Mullawornia</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Ballymahon</b>
<b>SIX INCH MAP NUMBER</b>	<b>22, 26</b>
<b>NATIONAL GRID REFERENCE</b>	<b>613000E 759040N</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>41</b>
	<b>GSI Bedrock 1:100,000 Sheet No. 12</b>

## Outline Site Description

A disused limestone quarry adjacent to the Royal Canal and the Ballymahon-Lanesborough road.

## Geological System/Age and Primary Rock Type

Massive and bedded limestone of Waulsortian carbonate, fossiliferous mudmounds that formed on the seafloor around 340 million years ago (Ma). These Waulsortian facies rocks are part of the Cruicetown Group of Lower Carboniferous age.

## Main Geological or Geomorphological Interest

Waulsortian carbonate mud banks occupied large areas of Ireland in the Lower Carboniferous (358-323 Ma). These mudmounds formed by the accretion of carbonate muds in bank beds of up to 1 metre or more in thickness and up to hundreds of metres in lateral extent. The quarry is excavated in a large, elongate, knoll-form bank. A range of depositional dips have been recorded at Mullawornia (c. 20° up to 45°), which is consistent with average slopes of knoll-form banks in Ireland of around 20° - 25°.

Mud-rich/calcite-rich layers identified in the quarry faces exhibit way-up structures (geopetal indicators) that indicate the depositional slopes on the bank margins. Stromatactid cavities and sheet spars are well represented in the quarry rocks.

Fossilised nautiloids (molluscs) identified in the quarry rocks at Mullawornia have provided an independent means of accessing the bathymetry and depth of formation of carbonate mudmounds, compared to conventional sedimentological studies. The results of these palaeontological studies indicate sea water depths of 65m-170m at the time the mounds were formed.

Solid bitumens, the residues of migrating hydrocarbons, have also been identified in calcite veins at the quarry.

## Site Importance – County Geological Site

This is an important site for the research conducted on the depth of Waulsortian carbonate mudmounds.

## Management/promotion issues

The quarry is disused. Old quarry sheds are now used to store bales of hay. Dumping and the burning of waste is a persistent problem on the quarry floor. The fossils that make the site so important are not easily identifiable in the exposed quarry face. Coupled with the issue of dumping in the quarry, the site is presently not suitable for public promotion. However, access should be maintained if at all possible for scientific study. The Record of Monuments and Places (SMR) lists an 'enclosure' (LF022-047) in the site of the quarry, which was also the location of a Trig point (307 feet). A report in 1976 (SMR file) recorded a raised oval area around 15 metres diameter enclosed by a bank of earth and stone. These features are no longer present due to quarrying.



Mullawornia quarry viewed from road looking south.



Bull rushes in ponded area on quarry floor.



Mullawornia quarry viewed from road.



Rubbish burning on quarry floor (15/07/2015).



Carbonate mudbank rocks on east quarry face.



