

CORK - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Subulter Quarry		
Other names used for site			
IGH THEME	IGH8 Lower Carboniferous, IGH12 Mesozoic and Cenozoic		
TOWNLAND(S)	Subulter		
NEAREST TOWN/VILLAGE	Kanturk		
SIX INCH MAP NUMBER	23, 24		
ITM CO-ORDINATES	544300E 604190N		
1:50,000 O.S. SHEET NUMBER	73	GSI BEDROCK 1:100,000 SHEET NO.	21
GIS CODE	CK082		

Outline Site Description

A limestone (dolomite) quarry by a minor road.

Geological System/Age and Primary Rock Type

At Subulter Quarry, unconsolidated clay sediments are of Oligocene (33.7 to 23.8 million years ago) age, from the Cenozoic Era (commonly referred to as the Tertiary Period). The sediments share a similarity with a dated cave fill sediments at nearby (1.5 km away) Ballygiblin Quarry. The sediments occur as infill in karst cave passages developed in dolomitised Waulsortian limestone bedrock of Mississippian (Lower Carboniferous) age.

Main Geological or Geomorphological Interest

The quarry at Subulter is excavated in unbedded, pale-grey dolomitised limestone. The dolomite is a secondary mineral deposit formed by the alteration of calcite minerals in limestone. Waulsortian limestones occur extensively in the northeast of County Cork, however this is the only site where dolomitised limestone is worked. Around the Mallow–Buttevant area, the Waulsortian Limestone succession reaches a maximum thickness of 500 m and has been described as a ‘bryozoan calcilitite’. The quarry lies towards the western end of the Kilmaclenine Anticline – a major fold structure extending 25 km from Kanturk eastwards to Doneraile.

Waulsortian limestones are normally massive and without obvious layers (beds). They formed as mounds of lime-mud on the sea floor, probably with mats of bacteria or algae binding them together. They are also characterised by having calcite-filled irregular cavities distributed widely through them. They often had lots of animals living on them as they created shallower and sheltered environments under the water.

Several large sediment-filled cavities are present on the east side and southern end of Subulter Quarry. The sediments comprise clays of varying brown/red/orange/yellow colour, with sand and breccia units. The sediment-filled cave passages were infilled in a phreatic (below the water table) underground cave system draining southward. The pollen and spore assemblage at nearby Ballygiblin suggests a Tertiary age environment similar to northern temperature forest dominated by conifers. Outside of northeast Ulster, Cenozoic rocks and sediments are rare in Ireland.

Site Importance – County Geological Site

This is a very important County Geological Site because it is one of only a handful of Tertiary sites in the south of Ireland. The clay sediments are important for interpreting Tertiary karst development in the north Cork area, and in gaining an insight into the environment present here around 25 million years ago. This site is also important because of the dolomitised limestone present.

Management/promotion issues

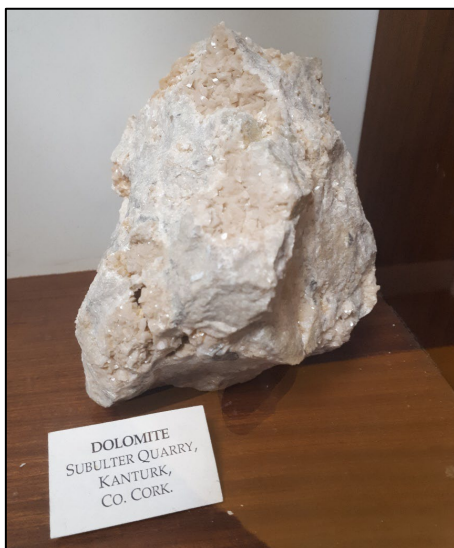
The site is a private active quarry active and is not suitable for promotion. It is of significant interest to researchers. It is reported that the dolomite was extracted for agricultural use and aggregates.



Subulter Quarry viewed towards north.



East side of quarry. Brown clay sediments in cavities exposed in upper (pale-colour dolomite) quarry faces.



Dolomite sample at University College Cork Geology Department.



Clay sediments in exposed phreatic passage cavity.

