

CORK - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Myrtleville		
Other names used for site	Myrtleville to Ram's Head		
IGH THEME	IGH8 Lower Carboniferous, IGH10 Devonian		
TOWNLAND(S)	Kilmichael East, Myrtleville, Ballinluska, Kilcolta		
NEAREST TOWN/VILLAGE	Myrtleville		
SIX INCH MAP NUMBER	99		
ITM CO-ORDINATES	579650E 558950N (Myrtleville Beach)		
1:50,000 O.S. SHEET NUMBER	81, 87	GSi BEDROCK 1:100,000 SHEET NO.	25
GIS CODE	CK068		

Outline Site Description

The site comprises a popular beach and two enclosing foreshore rock platforms, backed by low cliffs, adjacent to Myrtleville village.

Geological System/Age and Primary Rock Type

The bedrock cropping out to the south of Myrtleville Beach is sandstone and mudstone of the Upper Devonian Old Head Sandstone Formation and Lower Carboniferous (Mississippian) Courtmacsherry Formation. Northeast of the beach the rocks are all of Upper Devonian age. The majority of the bedrock is overlain by thick, unconsolidated deposits from the end of the last glaciation, and therefore of Quaternary age.

Main Geological or Geomorphological Interest

The Myrtleville coastal section contains a superb sedimentary rock succession commencing with alluvial red beds, that grade up into sediments of deltaic origin. These are overlain, in succession, by shallow marine and deep marine shelf sediments.

At the northeastern end of the site, the uppermost part of the Toe Head Formation can be seen. The succession here consists of thick greyish sandstone complexes alternating with a muddy and sandy red-bed sequence. The uppermost part of the Old Head Sandstone Formation is seen on the southern side of Myrtleville Beach, where it consists of grey heterolithic beds that contain abundant burrowing structures capped by a thick sandstone unit that weathers brown.

A major fault separates the Upper Devonian Old Head Sandstone Formation from the overlying Lower Carboniferous Kinsale Formation at Myrtleville. Only the upper part of the formation (the Pig's Cove Member) is seen here and is characterised by a thick succession of dark grey siltstone with minor parallel-sided thin sandstone beds. Further south, this is overlain by limestone and mudstone of the Courtmacsherry Formation, which crops out on the north side of Ringabella Bay.

The entire rock sequence is exposed as part of a Quaternary age wave-cut platform, which is overlain by a sand unit (with some gravels), which in turn is overlain by diamicton. These sand deposits are part of a raised beach, which can be found intermittently around the southern coast of Ireland at numerous localities. In Irish glacial literature this feature is called the 'Courtmacsherry Raised Beach', and the sand units at Myrtleville form one of the sites where the raised beach is seen. The sands and gravels are capped by chaotic diamicton, with overfolds related to local mass flow which happened just after the glacial ice retreated the area.

Site Importance – County Geological Site; recommended for Geological NHA

The varying bedrock units at Myrtleville provide evidence for major environmental changes in the past, and the unconsolidated deposits provide extra interest. This is an excellent teaching site.

Management/promotion issues

The central portion of the site is located at a public beach and is readily accessible via road, but caution is required when entering on to the rock platform that comprises most of the site as it is partly submerged at high tide and is otherwise exposed to rough seas. As well as this, the cliff faces are in soft sediment and unstable, particularly after stormy weather. This site is one of a series of sites on the west side of Cork Harbour that illustrate the Devonian–Carboniferous geology of the region, and which merit promotion, preferably as part of a harbour geological heritage trail.



The rock cut platform at Myrtleville, overlain by cliffs into Quaternary sediments.



Cross-bedded sandstone of the Toe Head Formation at Fennels Bay.



Flaser-bedded sandstones and minor mudstones of the Old Head Formation, exposed along the southern end of Myrtleville Beach.



Sand-filled gap between the rocks is the major fault separating the Upper Devonian Old Head Sandstone Formation (right of the gap) and the Lower Carboniferous Pig's Cove Member of the Kinsale Formation (left of the gap).

