

CORK - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Ballycroneen Bay		
Other names used for site	Ballycroneen Beach, Ballybranagan Beach		
IGH THEME	IGH7 Quaternary		
TOWNLAND(S)	Ballycroneen West, Ballybranagan, Ballyrobin South		
NEAREST TOWN/VILLAGE	Cloyne		
SIX INCH MAP NUMBER	100		
ITM CO-ORDINATES	591520E 561600N (centre of site)		
1:50,000 O.S. SHEET NUMBER	81	GSI BEDROCK 1:100,000 SHEET NO.	25
GIS CODE	CK009		

Outline Site Description

Sea cliff exposures up to 12 m in height and almost 2 km in length, resting on a rock pavement.

Geological System/Age and Primary Rock Type

Diamict or glacial till deposited during the last Ice Age, around 20,000 years ago.

Main Geological or Geomorphological Interest

The sediments exposed in the long cliff section along Ballybranagan Beach and the adjacent Ballycroneen Beach have an important place in the development of Quaternary geological studies in Ireland. The sediments were first described as containing granite and porphyry clasts that originated in Counties Waterford and Wexford, as well as chalk from County Antrim. In addition, marine shells were identified. Thus the till at this locality was identified as a deposit of the Irish Sea ice. This part of the coast marks the westernmost extent of the Irish Sea Till in County Cork.

The cliffs comprise a lower till resting on gravel, with well-rounded pebbles, that in turn rests on a rock platform. This lower till, or Irish Sea Till, is a sandy boulder clay with coarse clasts, in places clast-supported, that includes planar-bedded sand-dominated components. Above this till the upper part of the cliff typically comprises locally-derived boulder clay with abundant coarse clasts.

Ballycroneen Bay is a type-site for the Irish Sea Till on the south coast. Numerous researchers have studied these cliff sections since the original description by Wright and Muff in 1904 and all have agreed that the lowermost till is of Irish Sea ice origin. The origin of the succeeding till is less certain. The pebbles above the rock platform are considered to be the remnants of a raised beach dating from the interglacial prior to advance of the Irish Sea ice. The upper-most till has been interpreted by some as resulting from deposition by the Kerry-Cork ice sheet. Other studies have suggested that the upper till was deposited from the Irish Sea glacier, which extended on-land during the last glaciation.

Site Importance – County Geological Site

This site contains excellent exposures of Quaternary sediment sequences on the south coast of Ireland, and is the type site for the Irish Sea till in County Cork. The cliff sections here have been extensively studied over the last century and have been used as a basis for varying interpretations of the Quaternary geological history of the region.

Management/promotion issues

The site is located along two public beaches readily accessible via road. It is not within any designated protection area. Threats to the site are mainly from coastal erosion as the cliffs are not armoured. The extensive and very well-exposed cliff sections make it an ideal for studying Quaternary geology. It merits promotion, possibly as part of a south coast geological heritage trail.



View westwards along Ballybranagan Beach of the main cliff exposures at the site. Note exposure of wave-cut rock platform on right.



Ballycroneen Beach, cliff exposure showing coarse, rounded pebbles of raised beach deposit resting on rock platform, and overlain by matrix-supported till with very large cobbles.



Ballycroneen Beach showing base of cliff exposure with coarse rounded cobbles below sandy till. Hammer head marks contact.



Ballycroneen Beach, with cliff section showing stratigraphy. Coarse rounded cobbles of raised beach material (centre of photo, near base) overlie a rock platform (not exposed) at base of cliff. Sandy till with coarse clasts (purple colour, bottom right) overlies this and is then overlain by a planar-bedded sand-dominated unit (red colour, centre of cliff). These two units comprise the 'Irish Sea till' exposure at this locality. The upper half of the cliff comprises locally-derived till with abundant coarse clasts.

