

# CORK - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	Simon's Cove		
Other names used for site			
<b>IGH THEME</b>	IGH7 Quaternary		
<b>TOWNLAND(S)</b>	Farran, Councambeg, Rocksavage		
<b>NEAREST TOWN/VILLAGE</b>	Clonakilty		
<b>SIX INCH MAP NUMBER</b>	135, 136		
<b>ITM CO-ORDINATES</b>	542930E 538260N (centre of Simon's Cove beach)		
<b>1:50,000 O.S. SHEET NUMBER</b>	89	<b>GSI BEDROCK 1:100,000 SHEET NO.</b>	25
<b>GIS CODE</b>	CK081		

## Outline Site Description

Simon's Cove is a secluded and very small beach at the end of a steep-sided sea inlet just over 5 km southeast of Clonakilty, facing south into Clonakilty Bay.

## Geological System/Age and Primary Rock Type

The main features of interest on the site are a rock platform overlain by raised beach sands and gravels, which are again overlain by numerous units of diamicton. These are all Quaternary in age, formed during the last Ice Age. The bedrock cropping out on either side of the beach is grey mudstone and subordinate sandstone of the Kinsale Formation, which is of Lower Carboniferous (Mississippian) age (359-323 million years ago).

## Main Geological or Geomorphological Interest

At Simon's Cove a narrow gravel beach lies in an inlet etched into an extensive wave-cut rock platform, which is approximately 4 m above mean sea level on either side of the beach, and extends for a distance of 500 m each side of it.

The platform is up to 100 m wide and is exceptionally level, and probably the most level and uniform wave-cut rock platform in the country. In places the platform is deeply furrowed by 'P-forms', plastically moulded forms that were etched by subglacial meltwater. These are rarely preserved at a local scale. The P-forms cut across the strike of the rock, and some of them in the western end of the Simon's Cove site are up to 2 m high.

The wave-cut rock platform is overlain by magnificent examples of hummocky and swaley cross-stratified sands. The sand is of marine origin and contains wave-influenced bedforms deposited when ice vacated the site following deglaciation of the continental shelf. The sand is capped by stratified diamicton units, with overfolds related to local debris flows which occurred just after the glacial ice retreated the area.

These sands are part of the raised beach 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 and gravel units at Simon's Cove form one of the type-sites for the feature.

## Site Importance – County Geological Site; recommended for Geological NHA

Simon's Cove is probably the best example of a wave-cut platform in the country, and the fact that it has been moulded by ice and incised by subglacial meltwater (as illustrated by the P-forms) makes it somewhat unique in a global sense also. There is also excellent exposure into the raised beach and capping glacial debris flows on either side of Simon's Cove.

## Management/promotion issues

The site is accessible via a long laneway, which ends at Simon's Cove beach. There are some deep geos both west and east of the beach along the rock platform which are particularly hazardous to walkers. Regardless of walking on the platform, the site should only be visited as tides permit. A signboard outlining the geomorphological features at the locality and the importance of the site in terms of Irish glacial history would be a worthwhile addition to this wonderful, unspoilt locality.



The wave-cut rock platform at Simon's Cove, viewed from the east and looking west. The platform can be traced across the cove itself to the same elevational level, and is over 1 km long in total.



Stratified units of massive diamicton above openwork gravels of the raised beach.



Several subglacial meltwater furrows ('P' forms) side by side on the platform.



Rock forms moulded by subglacial meltwater moulded in to the rock platform at Simon's Cove.



