

# CORK - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Ballintra West</b>		
Other names used for site			
<b>IGH THEME</b>	<b>IGH7 Quaternary Geology, IGH10 Devonian</b>		
<b>TOWNLAND(S)</b>	<b>Ballintra West, Ballintra East</b>		
<b>NEAREST TOWN/VILLAGE</b>	<b>Gyleen</b>		
<b>SIX INCH MAP NUMBER</b>	<b>100</b>		
<b>ITM CO-ORDINATES</b>	<b>587200E 560300N</b>		
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>81</b>	<b>GSI BEDROCK 1:100,000 SHEET NO.</b>	<b>25</b>
<b>GIS CODE</b>	<b>CK004</b>		

## Outline Site Description

Cliff section c. 350 m long and 6–8 m high overlooking the foreshore, comprising a narrow beach and a rock platform.

## Geological System/Age and Primary Rock Type

The rock platform comprises sandstone and subordinate mudstone of the Upper Devonian Old Head Sandstone Formation. The cliff is composed of a sequence of Quaternary sediments, including gravel, sand and till, deposited during the last Ice Age, around 20,000–25,000 years ago.

## Main Geological or Geomorphological Interest

Ballintra West is one of a number of sites along the Cork coast where a well-exposed cliff section provides an opportunity to observe the different elements of the Quaternary succession in the south of Ireland. Observations of the sediments present at these sites by various workers since the beginning of the 20<sup>th</sup> century have contributed to an increased understanding of the Quaternary history of Ireland.

At this site, an incised rock platform varies in elevation from near beach height to 4–6 m above it. It is overlain by a massive but stratified gravel unit, which is common throughout the region. The gravel unit is generally considered to represent a beach deposit. At beach level, this may be overlain by a sand unit that has been interpreted as aeolian in origin. This in turn is overlain by a clast-supported breccia, interpreted as a periglacial “head” deposit formed as a soliflucted slope deposit. The remainder of the cliff section comprises diamicton, with a thick stratified sand-dominated unit that has a sharp contact with the clast-dominated unit that caps the sequence. The diamicton units are interpreted as glacial tills, deposited by the Irish Sea ice sheet, and overtopped by the later Kerry-Cork Ice sheet.

## Site Importance – County Geological Site

Ballintra West contains excellent exposures of various features that have been the subject of detailed study since the early 20<sup>th</sup> century that has contributed to improving understanding of the Quaternary history of Ireland. It also contains excellent exposures of the Devonian Old Head Sandstone Formation, including well-defined channel structures, that add to its significance.

## Management/promotion issues

The site is at a public beach, accessible on foot from Gyleen village at low tide. The main threat to the site comes from ongoing erosion of the cliffs. Rock armour has been installed at two locations where houses are located above the cliff but the remainder of the cliff face is unprotected. It merits promotion, possibly as part of a south coast geological heritage trail.



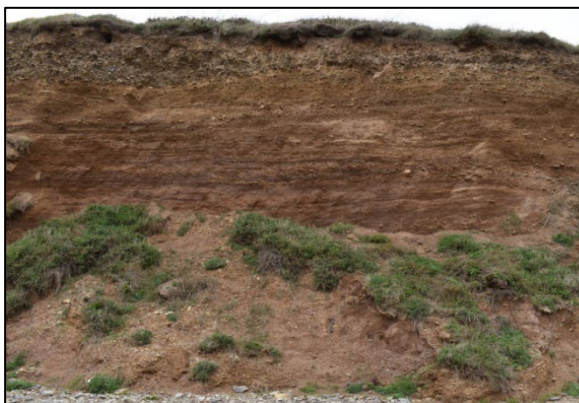
General view of recess in cliff face at the eastern end of Ballintra West, showing wave-cut bedrock platform (foreground), raised bedrock with overlying massive gravel unit (right) and stratified sand and massive till units forming rest of cliff.



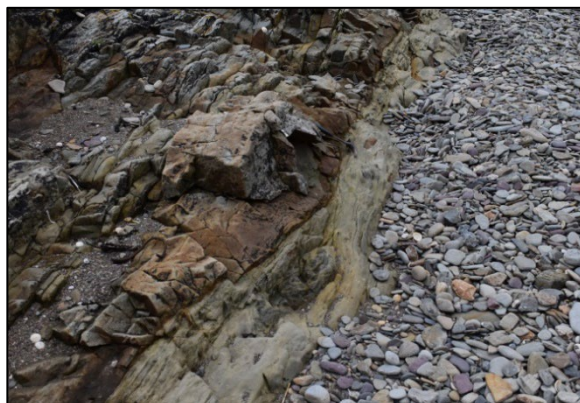
Bedrock exposed at height in the cliff face at the eastern end of Ballintra West site where it is overlain by a massive gravel unit.



Exposure at base of cliff section: laminated (?aeolian) sand above rock platform overlain by clast-supported "head" deposit of unsorted pebbles, mainly of Devonian sandstone.



Central part of Ballintra West site displaying typical sequence of Quaternary sediments, with matrix-dominated till overlain by medium-coarse stratified sand. A sharp erosional contact separates the sand unit from the clast-dominated till at the top of the cliff.



Channel structure in Old Head Sandstone Formation.



