

## TIPPERARY - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Ardfinnan</b>
Other names used for site	Southern Irish End Moraine, Tipperary moraine
<b>IGH THEME</b>	<b>IGH7 Quaternary</b>
<b>TOWNLAND(S)</b>	<b>Ardfinnan, Castlekeale, Spital-Land, Ballyneety</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Ardfinnan</b>
<b>SIX INCH MAP NUMBER</b>	<b>82, 88</b>
<b>ITM CO-ORDINATES</b>	<b>608660E 618200N</b>
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>74</b>
<b>GSI BEDROCK 1:100,000 SHEET NO.</b>	<b>22</b>

### Outline Site Description

This site comprises a ridge of glacial sediments at Ardfinnan.

### Geological System/Age and Primary Rock Type

Sand and gravels in a fan ridge at Ardfinnan. The 'South Ireland End Moraine' (SIEM) was for many years accepted as the limit of the Irish Ice Sheet during the Last Glacial Maximum (LGM), 25,000 to 19,000 years ago. The features formed around this time, however it has been established that the Irish Sea Ice Sheet extended much further south into the Celtic Sea during the LGM, around 24,000 years ago.

### Main Geological or Geomorphological Interest

For much of the 20<sup>th</sup> century, the SIEM was broadly accepted as representing the southernmost limit of ice during the last glaciation. Much of the consensus derived from early work carried out by Carville Lewis in the late nineteenth century, and subsequently by John Kaye Charlesworth - who coined the term 'South Ireland End Moraine' in 1928. Much of the analysis was morphological (with sedimentological data rarely considered adequately). Morpho-stratigraphic interpretation of the 'moraine' at Ardfinnan (and at Kilsheelan, east of Clonmel) supported the idea of the SIEM, which was interpreted as delineating the maximum extent of the ice sheet at the LGM, and for many years remained an accepted geomorphological feature of the Irish Quaternary landscape.

However, in recent years the significance of the SIEM at the 'ice sheet limit' has been revised and scaled back. Advances in dating methods and the analysis of offshore deposits and seabed morphologies now attest to a brief and rapid advance of the Irish Sea Ice Sheet to a maximum limit in the Celtic Sea during the LGM. This advance was followed by a retreat and stabilisation of the ice sheet to the SIEM. Field mapping and digital elevation model interpretation conducted in the early part of this century found no evidence of the SIEM feature on the landscape.

### Site Importance – County Geological Site

Sites associated with the SIEM have played a key role in developing an understanding of past glaciation events in Ireland, and as such make this site an important County Geological Site.

### Management/promotion issues

At Ardfinnan, the small fan feature (so-called 'moraine') was dissected by a meltwater channel, (R665 Ardfinnan-Clonmel road). Whilst sand and gravel extraction in the past has exposed a large section through the moraine at Spital-land, quarrying is a threat to the moraine at Ardfinnan and should not be permitted. The feature is not publicly accessible, but is observable from the roadside.



Fan or 'moraine' ridge viewed looking east across fields from R670.



'Moraine' to the rear of a row of bungalows at R665 roundabout.



Fan tills exposed in cliff face to the rear of plant yard at Spital-land on R665.



R670 hill road leading to R665 junction. Fan ridge to the east (left).



'Moraine' or fan ridge to the rear of the Pure Drop pub.



