

# SOUTH DUBLIN - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Brittas Gravel Complex</b>		
Other names used for site	Includes both the 'Brittas Moraine' and 'Ballinascorney-Aghfarrell Delta'		
<b>IGH THEME</b>	<b>IGH7 Quaternary</b>		
<b>TOWNLAND(S)</b>	<b>Calliaghstown Upper, Slievethoul, Slademoire, Crockaunadreenagh, Brittas Little, Brittas Big, Glenaraneen, Lugg, Raheen, Gortlum, Mountseskin, Aghfarrell, Ballinascorney Upper</b>		
<b>NEAREST TOWN/VILLAGE</b>	<b>Brittas</b>		
<b>SIX INCH MAP NUMBER</b>	<b>24</b>		
<b>ITM CO-ORDINATE</b>	<b>703025E 721400N (centre of feature)</b>		
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>50</b>	<b>GSi BEDROCK 1:100,000 SHEET NO.</b>	<b>16</b>

## Outline Site Description

The Brittas Gravel Complex includes a large accumulation of sands and gravels deposited at the edge of a series of ice margins at the end of the last Ice Age.

## Geological System/Age and Primary Rock Type

The meltwater complex formed on bedrock of Ordovician and Silurian metasediments and volcanic rocks, but the features comprising the complex itself are Quaternary in age.

## Main Geological or Geomorphological Interest

The meltwater complex includes a distinctive hummocky and scalloped topography around Brittas and on the flanks of the surrounding, high bedrock ridges, where the land surface is formed of many small ridges, hummocks, swales, channels and marked hollows.

The feature is poorly exposed today but in the 1950s Anthony Farrington of the Geological Survey of Ireland logged many gravel pits from the area in detail, as well as mapping the topography of the area. The topography reflects a wide range of depositional settings that resulted in ice-pushed moraine ridges, meltwater channels and ice marginal fans. Farrington suggested that the meltwater complex was formed during two major glacial incursions from the Irish Midlands onto the Dublin/Wicklow Mountains, and an intervening advance of a mountain ice cap onto the lowlands. This scheme was based on the relative position of moraine ridges in the valleys around Brittas and along the margins of the mountain ice mass.

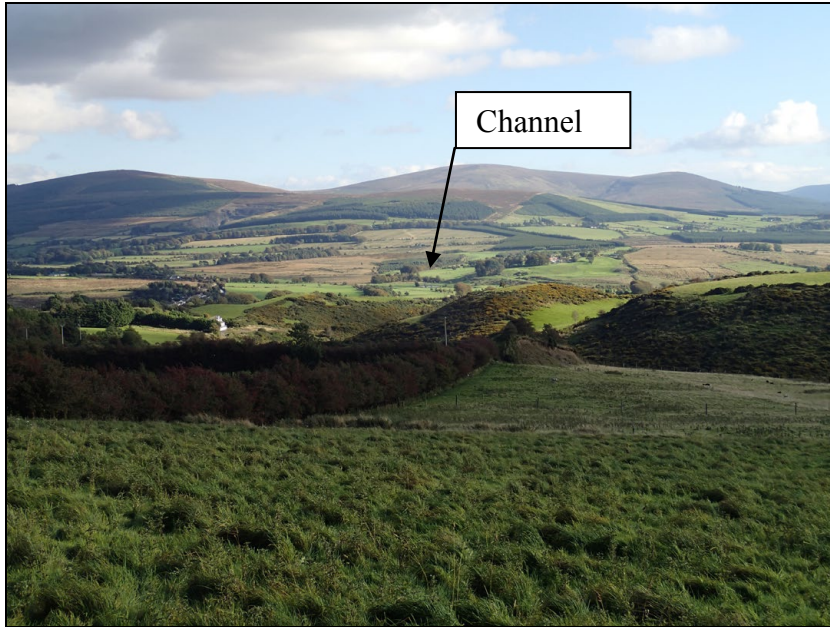
The meltwater complex has some still puzzling elements, including a large deltaic deposit at Aghfarrell which is composed of limestone gravels resting on granite gravels. Several hypotheses have been put forward for the formation of such a feature. As well as this, the exact sequence of ice withdrawal and related meltwater deposition has never been researched and mapped in detail.

## Site Importance – County Geological Site

The feature is a good example of the haphazard, hummocky topography which forms at the retreating margin of a melting ice sheet at the edge of an upland area. The central portion of the feature forms part of the proposed NHA (SAC 000211, Slade of Saggart and Crooksling Glen), for biodiversity reasons, and the geodiversity of the meltwater complex should be highlighted in any promotion of this.

## Management/promotion issues

This system comprises a fine landform sequence and should be listed as a County Geological Site. The hummocks and related features are best seen on a drive from Ballinascorney to Brittas, along the R114 road.



Meltwater channels in haphazard topography at Sladmore, just west of Brittas.



Scalloped landscape on the southern slopes of Saggart Hill, in Sladmore.



A shallow channel among hummocks of sands and gravels at Sladmore.



A flat-topped delta feature at Brittas Little, in the central portion of the meltwater complex.

