

DUN LAOGHAIRE - RATHDOWN – COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Dalkey Island
Other names used for site	
IGH THEME	IGH7 Quaternary, IGH 11 Igneous intrusions, IGH 16 Hydrogeology
TOWNLAND(S)	Dalkey Commons
NEAREST TOWN/VILLAGE:	Dalkey
SIX INCH MAP NUMBER	23
ITM CO-ORDINATES	727757E 726400N (centre of island)
1:50,000 O.S. SHEET NUMBER	50
GSi BEDROCK 1:100,000 SHEET NO:	16

Outline Site Description

A small well on an island of extensively exposed granite.

Geological System/Age and Primary Rock Type

The bedrock is porphyritic microcline type 2 granite of the Northern Unit of the Leinster Granite (405 Ma), the northernmost of five plutons that comprise the Leinster Granite batholith.

Main Geological or Geomorphological Interest

The site is primarily listed for a 'scurvy well' on the island. Reports of the supposed benefits to sailors of the water in preventing scurvy cannot be relied upon. However, the occurrence of a well – a natural spring, rather than a dug well, on an island of granite is notable. This is because granite is typically a compact and massive rock with low porosity and permeability, such that groundwater is not to be expected to circulate within it. The well on Dalkey Island appears to be a consequence of the slightly saucer-shaped interior of the island, the surface of which dips gently towards the well near the landing place. A thin veneer of glacial sediment, primarily a granite cobble-rich till, within this saucer seems to be sufficient reservoir for rainfall on the island to sustain the small flow in the well.

In addition, excellent exposures of granite are abundant throughout the island, with prominent veins of aplite (very fine grained granite), pegmatite (very coarse grained granite) and white quartz cutting through the exposures. There are very spectacular roches moutonnées, formed by northwest-to-southeast ice movement across the island during the last ice age, while the veneer of glacial till underneath the grass covered basin on top of the island is also testament to the effects of ice movement. On the southwestern coast, unusual weathering features in the granite resemble the clints and grykes commonly observed in weathered limestone.

Site Importance - County Geological Site

The well is small but an interesting hydrogeological phenomenon. The island as a whole is worthy of designation as a CGS because of the spectacular exposures of granite and the effects of glacial action and weathering upon them.

Management/promotion issues

The entire island, as well as adjoining smaller islands, is the subject of a Dun Laoghaire-Rathdown County Council Conservation Plan 2014-2024 which encompasses geological heritage. The Plan was developed with extensive consultation with all interested parties. As a result, the island is now accessible to visitors via a licenced boat service from Coliemore Harbour.



The scurvy well is in a white-painted construction, near the landing place.



The scurvy well is fed by rainfall onto this saucer shaped basin on the top of the island.



The scurvy well is fed by rainfall seeping through this thin layer of gravelly granite till.



Left: The granite is cut by veins of quartz and also aplite.

Right: From the landing place the historical church and the Martello Tower are obvious and the thin glacial till is most apparent at the back of the beach.



