

SOUTH DUBLIN - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE:	Newcastle Buried Channel
OTHER NAME(S):	
IGH THEME:	IGH 12 Mesozoic and Tertiary
TOWNLAND(S):	Newcastle Farm, Newcastle Demesne, Glebe, Athgoe North, Newcastle South, Ballynakelly, Newcastle North, Cornerpark, Commons Little Newcastle
NEAREST TOWN/VILLAGE:	Newcastle
SIX INCH MAP NUMBER:	20, 21
ITM CO-ORDINATES:	699440, 728477
1:50,000 O.S. SHEET NUMBER:	50
GSI BEDROCK 1:100,000 SHEET NO:	16

Outline Site Description

A deep buried channel in the Carboniferous Limestone bedrock is not seen at surface and only identified and delineated by mineral exploration boreholes.

Geological System/Age and Primary Rock Type

The bedrock is Carboniferous Limestone, and the channel sediments are presumed to be Tertiary in age. Glacial till is present at surface, obscuring any outcrop of the channel or its infilling sediments.

Main Geological or Geomorphological Interest

The buried channel was identified in 1981-1983 through mineral exploration work by Aquitaine Mining Ltd, and subsequently by Chevron Mineral Corporation. Primarily through boreholes they identified a channel approximately 100m wide, over 100m deep in places and extending for at least 2km in an east-west direction. At its eastern end, a borehole went through sedimentary fill, into bedrock and then into fill again. This feature is best interpreted as the site of a former Vaclisian Spring type cave (a large resurgence of groundwater from a cave). The sedimentary fill comprises a rich variety of coloured, sandy sediments. The mineral exploration identified high values of lead (galena), zinc and barite in the sediments but widely distributed at low percentages and therefore not an economic deposit.

Site Importance: County Geological Site

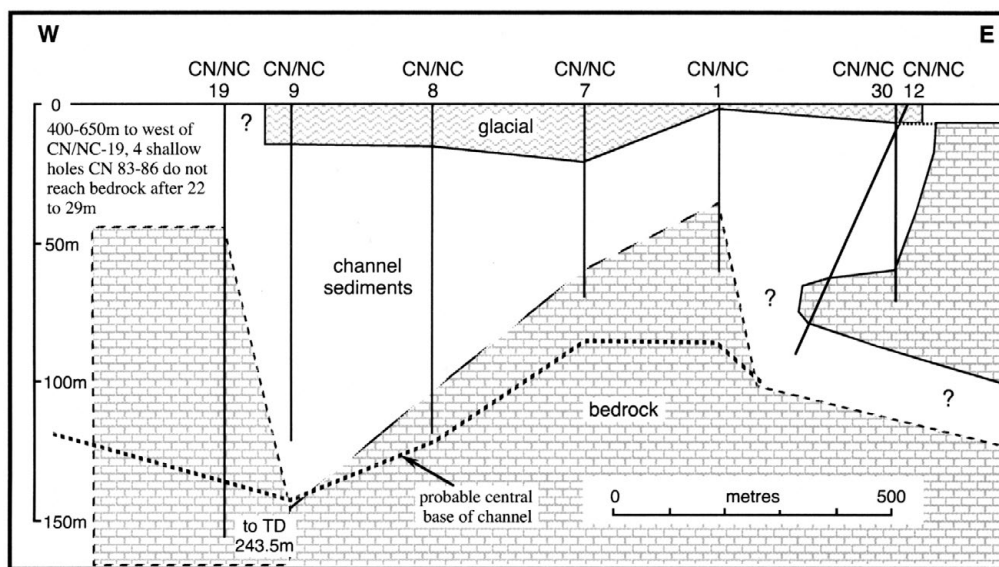
This is an unusual site, and although not visible or expressed at surface in any way, there are sufficient boreholes and geophysical evidence to delineate the channel quite well. This report has been compiled only with the vital assistance of Gareth LI. Jones (Conodate), based on unpublished data.

Management/promotion issues

Any development work that is within the channel area may be very interesting geologically in further characterising the feature, especially if deep excavations or boreholes are part of the proposed work.



The Newcastle area of the buried channel, viewed from Crockaunadreenagh to the southeast, showing the flat terrain.



Section through the Newcastle Channel and a summary of the channel fill stratigraphy

