GALWAY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE Other names used for site IGH THEME TOWNLAND(S) NEAREST TOWN/VILLAGE SIX INCH MAP NUMBER ITM CO-ORDINATES 1:50,000 O.S. SHEET No. 52 Boleyneendorrish River Gortian river site, Gortian type-site IGH7 Quaternary Drumminacoosaun Gort 123 552685E 706070N (centre of section) GSI BEDROCK 1:100,000 SHEET NO. 14

Outline Site Description

This site includes a now buried and invisible, low cliff section along a fast-flowing river that extended for c. several tens of metres and was recorded as being c. 2 m-4 m high over the majority of its extent.

Geological System/Age and Primary Rock Type

The low cliff section along the Boleyneendorrish River at Drumminacoosaun is comprised of Quaternary Age glacial sediments.

Main Geological or Geomorphological Interest

The low cliffs along the Boleyneendorrish River, near Gort, have become synonymous in Irish Quaternary studies with the locality of an interglacial (lake) peat deposit that has subsequently been used as the type site of the 'Gortian interglacial'. This period of relative warmth is taken to be the penultimate interglacial in Ireland, and has been tentatively dated to the Hoxnian and Holsteinian temperate stages of Britain and Europe respectively. This would suggest an age for the Boleyneendorrish River deposits of between 352,000 and 428,000 years ago.

The deposits were discovered and subsequently recognised as being highly significant by Henry Kinahan in 1865. Since then, the deposits have been re-visited many times; they were re-discovered in 1935 by Anthony Farrington, and were visited and sampled in the same year by Farrington, Frank Mitchell and Knud Jessen, during Jessen's remarkable period of Irish fieldwork. Jessen's Irish work was at the invitation of the Committee for Quaternary Research in Ireland, chaired by Irish naturalist Robert Lloyd Praeger. The work along the Boleyneendorrish River identified a temperate stage that appeared to go through a cycle of cold-warming-warm-cooling.

A subsequent borehole was put down through the overlying diamict into the interglacial peat sediments in 1949. The monumental paper published from these studies includes till fabric analyses, discussion of glacial events and ice movements but most importantly, an expert and meticulous study of the palaeobotany.

Site Importance – County Geological Site; recommended for Geological NHA

This riverbank cliff site is no longer visible, but buried under slumped riverbank sediments. However, the original, dated peats may still be present at depth, and whether or not extant, the contribution that this locality has made to Irish Quaternary studies is no less than staggering.

Management/promotion issues

The site is part of a wild, scrub-dominated forest edge, and is difficult to navigate on foot. The site is not suitable for promotion as is, but a signboard at the nearby road bridge lay-by might be a worthy addition to the locality.



View eastwards along the Boleyneendorrish River at Drumminacoosaun.



Looking westwards along the studied section of riverbank (left hand side).



A low cutting into the riverbank sediments.



View across the studied cliff locality.



Meehan et al. 2019. Geological Survey Ireland.



A local field assistant employed to dig out the interglacial sediments originally discovered by Kinahan in the 1860s stands next to the cleaned section in 1935. The base of the section shows the organic peats of the later part of the 'Gortian' and they are overlain by folded and disturbed (glacitectonised?) laminated clays.



Knud Jessen sitting with samples, local helper digging out section and Frank Mitchell going for a dip in the Boleyneendorrish River in 1935.

Source of both Figures is Pete Coxons 2016 paper "The type locality of the Gortian Interglacial: Boleyneendorrish River, Co. Galway. A site of significant importance to Irish Quaternary geology" in the IQUA Field Guide book 'The Burren, County Clare'. Pete records that Terry Dunne of TCD Geography Department recovered these plates from a glass plate negative found in a box in the Trinity College Museum Building. The plates belonged to the late Professor Frank Mitchell.