TIPPERARY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Lissvarrinane Meltwater Channels
Other names used for site	Galbally Channels
IGH THEME	IGH7 Quaternary
TOWNLAND(S)	Moorabbey, Corderry, Lissvarrinane, Ballycrehane
NEAREST TOWN/VILLAGE	Lissvarrinane
SIX INCH MAP NUMBER	73
ITM CO-ORDINATES	581975E 628475N (central portion of channels)
1:50,000 O.S. SHEET NUMBER 74	GSI BEDROCK 1:100,000 SHEET NO. 18

Outline Site Description

The Lissvarrinane Meltwater Channels comprise a series of deep channels that were formed by meltwater erosion at the western end of the Glen of Aherlow. The channels extend for a distance of approx. 4 km, and into County Limerick, where further channels are recognised around Galbally.

Geological System/Age and Primary Rock Type,

The features are formed in an area with common bedrock outcrop and subcrop, and bedrock is found along much of the channel sides, giving the features their' 'scalped' appearance. The features were etched out by meltwater during deglaciation at the end of the last Ice Age, about 14,000 years ago.

Main Geological or Geomorphological Interest

The Lissvarrinane channels include a main channel at Lissvarrinane, oriented west-east, and a tributary channel at Corderry, oriented generally north-south. The channels are up to 20 m deep and have a U-shaped profile, typical of meltwater channels. The Lissvarrinane Channel has formed along a thrust fault weakness in the underlying bedrock. Relatively small, 'misfit' streams flow along the channel bases, with the main channel hosting the River Aherlow.

The channels are considered to have formed completely in the late-glacial period. As ice melted across southern County Tipperary, a glacial lake formed in the Glen of Aherlow. This lake was impounded to both the east and west by glacier ice, as well as to the north by the Slievenamuck ridge and to the south by the Galtee Mountains. The meltwater channels at Lissvarrinane and Corderry channelled subglacial meltwaters from the melting ice at the north directly across the Slievenamuck ridge, and into the lake. The elevation of the channels therefore actually record old lake levels from this time; 168 mAOD at Corderry and 90 mAOD at Lissvarrinane. This sequence illustrates a decrease in ice thickness in the locality as the ice continued to melt northwards.

Much of the sides of the channels are very steep and are partially covered with coniferous forestry. The Corderry channel has an irregular long profile, which means that meltwater was under huge pressure from ice above, thus proving that the channel was initially subglacial in origin. The channel probably extended further southwards but its southern portion has been blocked by ice marginal sediments which forced drainage later in deglaciation to flow southeastwards towards Lissvarrinane.

Site Importance – County Geological Site

This is an area with good teaching potential on glacial meltwater erosion, as the features are accessible, quite spectacular, and easily viewed from roads.

Management/promotion issues

The location of the channels just of the R663 means they are relatively easily accessible, although the flanks are presumably privately owned. In places, there is a lack of good parking spots, and along stretches it is difficult to stop safely on the road.



The Lisvarrinane Channel, viewed from the high ground at Corderry.



The southern end of the Corderry channel, where the feature is cutting through both bedrock and till sediment.

