

## MAYO - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Kilbride Farm Quarry</b>
Other names used for site	Kilbride mass mortality horizon
<b>IGH THEME</b>	<b>IGH2 Precambrian to Devonian Palaeontology, IGH4 Cambrian-Silurian</b>
<b>TOWNLAND(S)</b>	<b>Kilbride</b>
<b>NEAREST TOWN</b>	<b>Clonbur</b>
<b>SIX INCH MAP NUMBER</b>	<b>120</b>
<b>ITM CO-ORDINATES</b>	<b>504710E 759570N</b>
<b>1:50,000 O.S. SHEET NO. 38</b>	<b>GSI BEDROCK 1:100,000 SHEET NO. 11</b>
<b>GIS Code MO64</b>	

### **Outline Site Description**

Small quarry excavation on a south sloping rocky hillside, at the southeast end of the Kilbride peninsula. This is a key site within the much larger 'Finny and Kilbride' Site.

### **Geological System/Age and Primary Rock Type**

Silurian age bedrock (Kilbride Formation) with very diverse invertebrate marine fauna, and a number of beds illustrating mass mortality of corals on the sea floor by a surge deposit of volcanoclastic sediment. Other fossils include brachiopods, crinoids, and nautiloids.

### **Main Geological or Geomorphological Interest**

The site's prime palaeo-ecological interest is the '*mass mortality*' horizon, where there is clear evidence of corals inhabiting the late Silurian sea floor being killed off by thin surge deposits of volcanic debris. Aside from the bed of volcanic sediment which killed off (smothered) the coral colonies, a very diverse fauna of corals, brachiopods and trilobites (as well as other marine fauna) is preserved at the site. Most fossils are preserved as decalcified moulds, or as calcareous shells. Fossils are numerous at the site, and some beds are pervasively fossiliferous. A new crinoid genus and species (*Cryptanisocrinus kilbridensis*) was identified at the site, the first Irish Lower Palaeozoic flexible crinoid. The site preserves the best section through the middle and upper parts of the Kilbride Formation within the Kilbride Peninsula. Together with the sites at Finny Road Section and Doon Rock, the Kilbride peninsula exhibits classic Silurian (late Llandovery) marine transgression sequences across South Mayo.

### **Site Importance – County Geological Site; recommended for Geological NHA**

The site is a spectacular site on the Kilbride Peninsula, overlooking the Lough Mask. The rock faces in the quarry expose whole surfaces of single beds of rock which provide a snapshot of a coral rich Silurian sub-tropical seafloor that was smothered by volcanic ash debris from a distant eruption. The richness and diversity of fossils here is excellent and outshines all other sections of the Kilbride Formation in the area. Kilbride Farm Quarry forms a key site of interest within the larger 'Finny and Kilbride' area (IGH4) and should be designated as part of the larger geological NHA site.

### **Management/promotion issues**

The entire Kilbride peninsula area is widely used for training of geological students from Ireland, the UK and the USA. The rock exposures and diverse geology in the Kilbride area are widely renowned as a 'classic' geological area. This site is important for providing a biostratigraphical data and environmental data for the South Mayo Silurian rocks. Deeper quarrying at the site could remove the main 'mass mortality' bed but is probably unlikely as the landowner is aware of the interest. The site is located on private land, and therefore permission must be sought from the landowner to access the site.



View of Kilbride Formation rocks and the main 'mass mortality' bed.



Panorama of the site viewed from the farm access gate.



Close up detail of brachiopods in one of the beds of the Kilbride Formation.



