

MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Shanvallycahill (Lough Mask Shore)
Other names used for site	Derry Bay – North Shore
IGH THEME	IGH4 Cambrian to Silurian
TOWNLAND(S)	Shanvallycahill
NEAREST TOWN/VILLAGE	Tourmakeady
SIX INCH MAP NUMBER	116a
ITM CO-ORDINATES	505470E 761720N (centre of features)
1:50,000 O.S. SHEET NO. 38	GSI BEDROCK 1:100,000 SHEET NO. 11
GIS Code MO092	

Outline Site Description

This lakeside site extends along the north shore of Derry Bay (Shanvallycahill) from the public picnic/parking area, eastwards to the main Lough Mask water body.

Geological System/Age and Primary Rock Type

Basal red sandstones and lavas of the Silurian Lough Mask Formation (east end of site), rest unconformably on conglomerates (comprising metamorphic and granite clasts) of the Ordovician Derryveeny Formation. Conglomerate beds and lava beds were smoothed by the movement of ice sheets during the last ice age.

Main Geological or Geomorphological Interest

The greater extent of the lakeshore at the site has excellent exposures of accessible and easily identifiable Derryveeny Formation (Ordovician) conglomerate beds. Clast assemblages in the conglomerates include sillimanite-bearing migmatites, foliated granites and schists. Some 600m east of the parking area, a transition from the conglomerate outcrops is marked by the appearance of rough and jagged outcrops of Silurian (Llandoverly) Lough Mask Formation lava beds (Ardaun Member). NE-SW trending striae are visible on the purple/brown-coloured lava beds, which were polished by glacial movements. Some 50m further east the lavas are succeeded by overlying (younger) coarse red sandstones of the Lough Mask Formation. The Lough Mask Formation succession strikes roughly N-S in this area (but is mainly E-W throughout Killary Harbour – Joyce Country). The three main rock types described herein are all observable within a short distance of 100m.

Site Importance – County Geological Site; recommended for geological NHA

An internationally important site for palaeomagnetic analysis, the site provides important insights into past environments (volcanic and fluvial) in the south Mayo region between c. 480 and 430Ma. This site allows for easy access to the excellent outcrops of conglomerates, lava beds and sandstones. This site is recommended for designation as a geological NHA.

Management/promotion issues

Access to the site is afforded via a tarmac roadway leading to a picnic/parking area from the R300 route. Access is through a farm gate (please note the sign requesting that the gate be closed on entry and exit). The site is marked as a picnic area on public maps (e.g. OSI 1:50000 series). A dry farm path (limestone gravel in places) runs east along the lake shore. Threats to the site include visitor pressures (litter; campfires, fly-tipping) and extraction of deposits of sand from the lakeshore. This site is an important location for palaeomagnetic analysis – and previous studies at the site have left boreholes in lava outcrops on the lakeshore. Future borehole sampling could adhere to best practice of refilling holes with crushed sample material. The site is very important for geological research and outdoor teaching. Students and visitors should be reminded that the bedrock outcrops should not be damaged or sampled. There are many other less important sites in the locality if sampling needs to be conducted.



View of Shanvallycahill\Derry Bay picnic and parking area from Derryveeney Formation conglomerates on Lough Mask lakeshore, 60m east of the picnic area. Cloud covered summit of Binnaw in NW.



Glacially smoothed conglomerate beds (Derryveeney Formation) on lakeshore – looking east towards Lough Mask.



In situ quartz clast (white) and jasper (red; at butt of hammer handle) in the Derryveeney Formation conglomerates – looking east towards Lough Mask.



NE-SW trending glacial striae on smoothed outcrop of Ardaun Lava Member of Lough Mask Formation on lakeshore. Boreholes from palaeomagnetic analysis. Approx. 600m east of parking area.



Coarse red sandstone of the Lough Mask Formation on Shanvallycahill shore. Approx. 650m east of parking area.

