NORTH DONEGAL - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Lagh Hill**
Other names used for site	Portavaud
IGH THEME	**IGH5 Precambrian**
TOWNLAND(S)	**Tirmacroragh, Redford Glebe**
NEAREST TOWN/VILLAGE	**Culdaff**
SIX INCH MAP NUMBER	**5**
ITM CO-ORDINATES	**656300E 949290N (Portavaud outcrops)**
1:50,000 O.S. SHEET NUMBER 3	**GSI BEDROCK 1:100,000 SHEET NO. 1**
GIS Code ND010	

Outline Site Description
A raised wave-cut platform site at the northern foot of Lagh Hill on the northwest shore of Inishowen. This site contains conglomerates, in which foliated and non-foliated clasts occur.

Geological System/Age and Primary Rock Type
Neoproterozoic Dalradian Supergroup (Southern Highland Group) arkose conglomerates containing abundant cleaved psammite (meta-sedimentary) clasts.

Main Geological or Geomorphological Interest
This site is situated along the shoreline where cliffs and bluffs on the north, seaward side of Lagh Hill meet the sea. Bedrock comprises polylithic (a variety of rock types) clast-supported (clasts and rock fragments in contact with each other) conglomerate. Clasts are typically 1cm-2cm in diameter. Of the constituent clasts, well-foliated psammite clasts have been identified, along with numerous non-foliated clasts of similar size and composition. This strongly suggests that clast foliation is not associated with Caledonian deformation, which would cause deformation of all the clasts.

The provenance (source) of the Neoproterozoic Dalradian Supergroup remains a topic of research. The occurrence of foliated clasts in these conglomerate beds suggests that the source of the foliated rock fragments (most likely pre-Dalradian Supergroup) was a major contributor to the overall provenance of the conglomerates. The clasts may provide evidence of long episodes of extensional tectonism during the Neoproterozoic history of NW Ireland and the Scottish Highlands.

Site Importance – County Geological Site
The occurrence of cleaved clasts in these upper Dalradian Supergroup rocks implies that the Southern Highland Group was partly sourced from a deformed and metamorphosed sequence of rocks that predate the deposition of most, or all, of the Dalradian Supergroup. The Knoydartian orogeny (870-800 million years ago) is cited as the most viable candidate for this deformation episode. This County Geological Site is situated within the North Inishowen Coast SAC (002012).

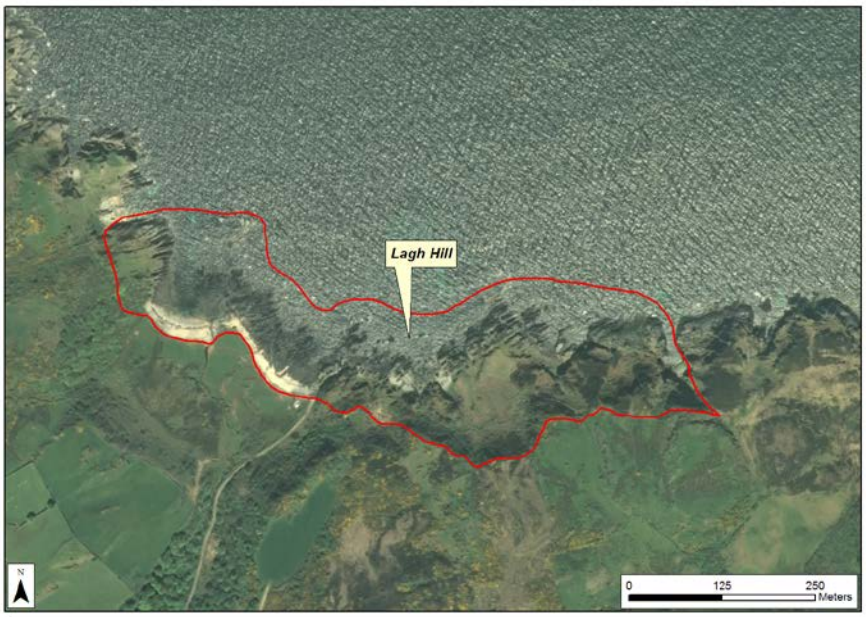
Management/promotion issues
This remote coastal section is accessed by track from Redford Glebe crossroads, along a stream gorge to a raised beach at Portavaud. Owing to its remoteness the site is not considered to be under threat, save from natural coastal erosion processes. This high energy shoreline is an important site for geological research, but not suitable for public promotion, as the features are accessed and observed via a scramble across littoral zone exposures. Any future promotion of the designated area should include the geological significance of the site.

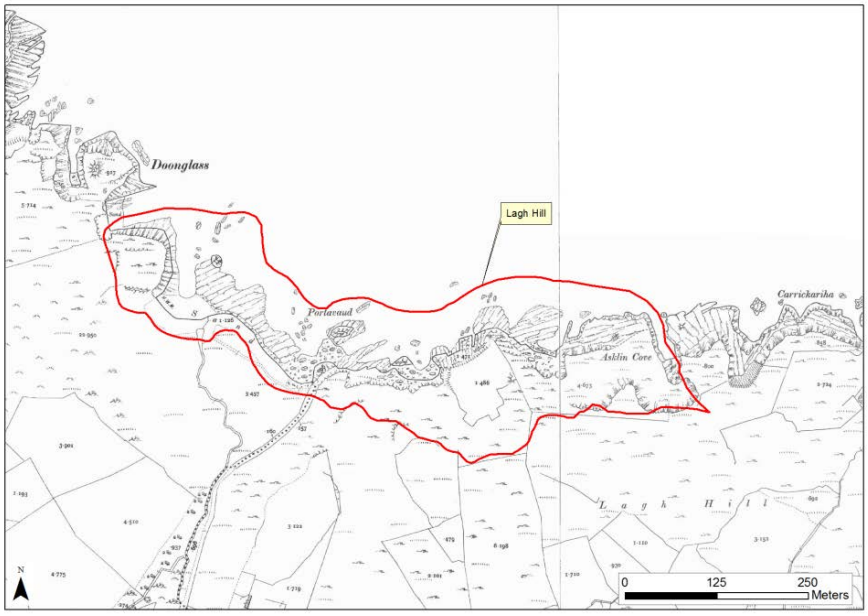
Rocky coastline at Lagh Hill/Portavaud, looking NW towards Dunmore Head.

Conglomerate beds at Lagh Hill/Portavaud coastal site, viewed looking southeast from near access track.

Arkosic conglomerate at Lagh Hill/Portavaud. (Coin for scale.)

Polylithic conglomerate at Lagh Hill/Portavaud. (Coin for scale.)





Hennessy *et al.* 2019. Geological Survey Ireland.