

GALWAY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Dawros
Other names used for site	
IGH THEME	IGH6 Mineralogy, IGH11 Igneous intrusions
TOWNLAND(S)	Dawros More
NEAREST TOWN/VILLAGE	Letterfrack
SIX INCH MAP NUMBER	10, 23
ITM CO-ORDINATES	469420E 759210N
1:50,000 O.S. SHEET No. 37	GSI BEDROCK 1:100,000 SHEET NO. 10

Outline Site Description

Abundant large outcrops in area of rough grazing on hillside overlooking Ballynakill Harbour.

Geological System/Age and Primary Rock Type

Ordovician ultramafic layered intrusion comprising peridotite with primary mineral layers rich in chromite.

Main Geological or Geomorphological Interest

The Dawros Peridotite is an ultramafic layered intrusion, part of the extensive Connemara Metagabbro and Orthogneiss Complex. This complex formed the root zone of the Ordovician magmatic arc that developed above the northward-dipping subduction zone on the northern margin of the Iapetus Ocean. Most of the exposed rocks of the arc are found in south Connemara in the Ballyconneely – Roundstone area but deformation led to fragmentation of the arc and parts of it are exposed further north, principally in the Dawros – Currywongaun area.

The Dawros Peridotite is considered to represent the basal cumulates that formed in the magma chamber of the arc. The chromite-rich zones within the peridotite are primary mineral layers formed during crystallization and settling within the magma chamber. The layers typically contain around 90% chromite. Emplacement of the peridotite body during orogenesis as the Iapetus Ocean closed has led to significant deformation of the mineral layers at Dawros.

The peridotite has been subdivided into a lower harzburgite series and upper lherzolite series, with the chromite-rich layers occurring in dunite bands in the harzburgite group just below the lherzolite.

Site Importance – County Geological Site; may be recommended for Geological NHA

This site contains excellent exposures of ultramafic rocks and associated mineral layering that formed at the root of a magmatic arc. The site is in the western part of the Dawros Peridotite where the most abundant chromite-rich mineral layers occur. The peridotite represents the original base of the metagabbro sequence and the layering is evidence for crystallization and settling of minerals within the magma chamber. The observed deformation of the layers reflects emplacement of the peridotite during orogenesis. This is a significant site in a national context and warrants consideration for NHA status.

Management/promotion issues

The site is not within any designated protection area. It is reached by a road that ends in front of several private dwellings. Several farm outbuildings are present and the land is apparently used for rough grazing. The hilly nature of the site is likely to preclude housing development. As it is likely to be mainly of interest to researchers, the site does not require promotion.



General view of peridotite outcrop, looking west. Outcrop with mineral layering is on right.



Deformed chromite-rich mineral layers (black) in peridotite. Chromite layers are splayed out horizontally (in photo) in lower part of outcrop, parallel to fabric in rock



Thick chromite-rich mineral layers (black) in peridotite.

