

MONAGHAN - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Calliagh
Other names used for site	
IGH THEME	IGH6 Mineralogy; IGH 15 Economic Geology
TOWNLAND(S)	Calliagh
NEAREST TOWN/VILLAGE	Three Mile House
SIX INCH MAP NUMBER	13
ITM CO-ORDINATES	663110E 826683N
1:50,000 O.S. SHEET NUMBER	28
GSI BEDROCK 1:100,000 SHEET NO.	8/9

Outline Site Description

The site consists of a small 19th-century excavation or quarry on the summit of an unnamed hill; a radio transmitter station lies immediately north of the site.

Geological System/Age and Primary Rock Type

The rocks are greenish greywackes and red shales of the Ordovician Coronea Formation, part of the Northern Belt of the Lower Palaeozoic Longford-Down inlier.

Main Geological or Geomorphological Interest

The site is partly comprised of red shales that are enriched in iron (Fe) and manganese (Mn). As far as is known, iron was not mined here but at Redhills in county Cavan, 20km southwest of Calliagh, similar shales, also part of the Coronea Formation, were mined for iron in the 1870s. The shales at Calliagh contain up to 25% or more Fe and around 4% Mn. The Fe-bearing mineral within the slate is hematite. In the early 1940s, the Emergency Scientific Research Bureau estimated that the deposit contained several thousand tonnes of Fe-Mn ore. The red shales are well exposed, especially in the southeastern part of the quarry.

Also reported in a quartz vein from this site, in the 19th century, was idocrase, or vesuvianite, a Ca-Fe-Mg silicate typically associated with altered limestones. Modern work has identified the straw- or honey-coloured mineral found here as *axinite*, a Ca-Fe-Mn boro-silicate. The variety at Calliagh is Mn-rich (*manganaxinite*) and this is the first recorded location for this variety of axinite in Ireland or Britain. Several thin (2–4 cm) quartz veins are well exposed cutting the shales on the southeastern side of the quarry but the 10 cm-thick vein containing axinite was observed only at one location in the southeastern wall. The axinite occurs as bunched prismatic crystals in discrete zones within the vein.

Site Importance – County Geological Site

The site deserves recognition as the first recorded location in Ireland and Britain where manganaxinite has been recognized. The small quarry is also the best exposure in Monaghan of red Fe- and Mn-rich shales of the Coronea Formation.

Management/promotion issues

The site is part of a large field that is used for grazing cattle. The quarry is depicted on the old six-inch maps that date from the early 20th century and its extent has not changed appreciably in the interim. However, grass has colonized significant parts of the floor and the less steep faces. As it is part of a working farm, the site is not suitable for general promotion. The presence of a relatively rare mineral suggests caution so as to avoid attracting mineral collectors.



Calliagh: hill top with transmitter station in foreground (view to south)



Southeastern side of hill-top quarry (view to southwest) with red-coloured Fe- and Mn-rich slates visible in middle of photo (left); close-up of Fe- and Mn-rich slate (right).



Outcrop of manganaxinite-bearing quartz vein, immediately to right of clinometer (left); close-up of manganaxinite (A) in quartz vein (right).



