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An occurrence of paratacamite in south-west Scotland

DURING the course of investigations in the Portencorkrie area of Wigtownshire, mineralized vein samples were collected and paratacamite was identified by X-ray diffraction in a specimen from some 500 m NNW of Barncorkrie Farm, Drummore (NX 0928 3622). We believe this to be the first report of paratacamite in Scotland. The mineral occurs as a very thin green coating on a small area, c. 1 mm \times $\frac{1}{2}$ mm of small, sugary calcite crystals. The diffraction pattern (film no. XE 157) closely resembles that of Bannister *et al.* (1950) for the Cornish material. This was confirmed by R. J. Merriman of IGS London by reference to the British Museum (Natural History).

The specimen was taken from a vein cutting the Portencorkrie intrusion, which is a Caledonian diorite with a central core of granite. The diorite is intruded into steeply dipping Ordovician greywackes and shales. Teall referred to the intrusion in 'The Silurian Rocks of Scotland, Vol. 1' (Peach and Horne, 1899, pp. 623-4), and it is described in a paper by Holgate (1943).

The vein is one of several similar thin discontinuous veins that cut the diorite and have a NNW trend. They appear to be associated with faulting and jointing with this orientation. The vein in which the paratacamite was found is poorly exposed, but it is similar to better exposed material on the coast at Laggantalluch Head and Crammag Head, where thin discontinuous lenses not more than 10 cm thick occur in prominent joint planes or in crush zones.

X-ray diffraction identifications showed the vein to consist mainly of quartz with some calcite, chalcopyrite, and small amounts of arsenopyrite, the copper secondary minerals paratacamite and connellite, and the clay minerals kaolinite, chlorite, and saponite. Atacamite was also identified from similar vein material collected at Crammag Head. The chlorine-bearing copper minerals atacamite and connellite have been recorded from the aureole of the Criffel granodiorite by Miller and Taylor (1966). They attributed the presence of these minerals to the action of sea-water on primary ore.

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