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# Whin Sill Contact Metamorphism

***Dr Doug Robinson, University of Bristol***

Tuesday 19th July 2022

Zoom Talk: opens at 6:15pm for 6:30pm Start

The Western Regional Group is pleased to welcome Dr Doug Robinson who will describe his PhD thesis work (way back in 1968-71) looking at the Whin Sill contact metamorphism and its source model. This work was eventually published in the Proceedings of the Yorkshire Geological Society in 2019.

The Whin Sill is a major feature of the Alston block, which covers much of Durham and the eastern parts of Cumbria, and forms the northern part of the Pennine range. The block is faulted on the northern, southern and western edges, and dips eastwards under the North Sea. The block is dominated by a Carboniferous sequence with the oldest rocks in the west and youngest in the east. It is well known for its mining history from the coal in the east to the metalliferous deposits over the central and western parts.

Whin Sill exposure at High Force © Geological Society

The block is also well known for the Whin Sill intrusion, which has given rise to many of the scenic features in the area such as High Force waterfall and the escarpment along which Hadrian's wall is built. The sill is also well known as being the type example used in arguments against the very early geological idea that sill-like igneous rocks were precipitated from sea water. The heat from the intrusion has caused contact metamorphism that has given rise to a wide range of minerals, and is well known for the development of the so-called sugar limestone on which a relict artic flora is developed in Upper Teesdale. The presently accepted model for the Whin intrusion style is that the magma was feed from the dykes bordering the block. This model does not accord with many features of the sill intrusion, and a different model will be presented

Doug Robinson is an honorary research fellow at Bristol University, having joined the Geology Department as it was in 1973. His main research interests were in low-grade metamorphism, following on from his thesis work on the Whin Sill contact metamorphism which included XRD analysis of clay mineral changes in the aureole. He has published over 60 papers, and given over 50 conference presentations in this field. Doug also served as an editor of the Journal of Metamorphic Geology for just over 30 years, with 28 of those as editor in chief.

**Zoom Talk:** When: 19th July 2022 6:30 PM. *Entry is free, non-members welcome.*

**Link:** https://us02web.zoom.us/j/81482056161?pwd=S055VTB4bllVK29yUnJDb20vR1g4UT09

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