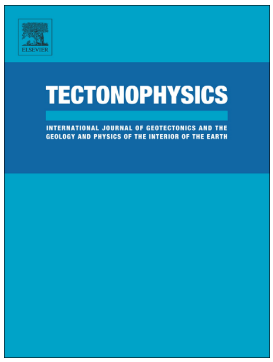

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Abstract

The ductile-brittle transition zone in extensional regimes can play the role of a hydrogeological barrier. Quartz veins developed within an orthogneiss body located in the detachment footwall of a Metamorphic Core Complex (MCC) in the Nevado-Filábride units (Betics, Spain). The detachment footwall is composed mainly of gneisses, schists and metacarbonates from the Bédar-Macael sub-unit. Schist and metacarbonate bodies show evidence of ductile deformation at the time the gneiss was already undergoing brittle deformation and vein opening during exhumation. The vein system provides the opportunity to investigate the origin, composition and *PVTX* conditions of the fluids that circulated in the detachment footwall while the footwall units were crossing the ductile-brittle transition.