



Controls on Triassic subsidence in the Solway Basin, Northern England

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The Solway basin is part of an extensive corridor of Permo-Triassic rifting in the Irish Sea, and is strongly oblique to contemporary structural trends in adjacent basins. A two kilometre thick sequence of continental sediments is preserved, which has previously been attributed to extension and associated thermal sag following multiple phases of rifting. A detailed reappraisal of seismic data from the UK onshore Geophysical Library reveals little evidence of syn-sedimentary extension within the region. Back-stripping analysis conducted for wells across the province indicates that the magnitude of subsidence cannot be explained by conventional rifting models. Instead, it is proposed that accommodation space has been locally controlled by upstanding granite cored blocks, within a regional setting of sedimentary loading and regional thermal sag.