

**THE INFLUENCE OF FLUORITE AND BARITE CEMENTATION
ON POROSITY AND PERMEABILITY IN RESERVOIR AND
RESERVOIR ANALOGUE SANDSTONES.**

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Outcrop (sandstone) plugs from the Rotliegende Hopeman Sandstone (from the Inner Moray Firth Basin, Scotland) and cores from the Southern North Sea (Rotliegende) have been analysed for the relationship between fluorite and barite cementation and petrophysical properties. The cements are compositionally zoned and their distribution is controlled by fractures. There appears to be a link between zonation of mineral cements in veins and the structural evolution of both the reservoir and outcrop examples. This study of fracture cements has important implications for the evolution of porosity and permeability in these rocks. Permeability and helium porosity have been measured on core plugs, and mercury injection porosity on plug offcuts. Permeability variation between fracture cements have been measured using a minipermeameter on outcrop and core samples. Mineral cements are preferentially precipitated in layers with high depositional porosity and permeability but are less effective in modifying rocks with originally moderate porosity/permeability. Hence the introduction of these cements via fractures can severely modify flow characteristics through the formation.

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2)Unknown

3)Convener: Dr Paul Glover

4)No other equipment required in addition to the standard

5)Oral

6)Young Scientists' Travel Awards.