Geology of the Humber Group: Central Graben and Moray Firth, UKCS

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Geology of the Humber Group: Central Graben and Moray Firth, UKCS

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Preface

This volume covers a wide range of topics that are central to the exploration and production of hydrocarbons from the Humber Group. The first section of the volume covers regional aspects of the hydrocarbon geology of the Group and consists of seven papers. **Veldkamp *et al.*** present an analysis of sequence-stratigraphic methods applied to the Humber Group in the Central Graben of the North Sea. Using a similar approach, **Carruthers *et al.*** investigate the relationships of the occurrence of turbidites in a predominantly shallow-marine setting by using biostratigraphically-constrained sequence stratigraphy. **David** provides a comprehensive summary of the exploration history of the Moray Firth, which is dominated by the prospectivity and proven reserves in Humber Group reservoirs. **Davies *et al.*** provide a re-evaluation of the flooding history of the Moray Firth rift system from the Middle Jurassic through Upper Jurassic by detailed stratigraphic analysis, in so doing creating a regional stratigraphic framework for future hydrocarbon exploration. **Harker & Rieuf** focus on the stratigraphic relations of sandstone reservoir distribution in the Outer Moray Firth based largely on data from the prolific oil-prone area of the Wytch Ground Graben. In the same study area as the previous paper, **Hallsworth *et al.*** use heavy mineralogy to examine the thorny problem of sediment dispersal patterns in a basin where several sources appear to have been active during deposition of the Humber Group. Finally, **Frost & Rose** provide a provocative view of basin development in the Moray Firth suggesting that Late Jurassic sedimentation took place during a period of tectonic quiescence punctuated by strike-slip movement.

In the second section of the volume, eight papers cover a range of more specific topics that examine ichnofabric, reservoir quality, organic geochemistry and field studies. Four of the papers examine characteristics of Upper Jurassic reservoirs within specific areas of the Moray Firth and Central Graben, starting with **Martin & Pollard** who present the role of ichnofabric analysis in the development of depositional models for the Fulmar Formation of Quadrant 21, and specifically the area of the Kittiwake Field. **Gowland** presents detailed sedimentological data and analysis for the highly bioturbated Fulmar Formation. This topic is expanded upon by **Cannon & Gowland** who examine the facies controls on reservoir quality in Quadrant 21. **Freer *et al.*** present an evaluation of Upper Jurassic reservoir quality on the Fladen Ground Spur. The next two papers examine geochemical topics. **McCants & Burley** provide a detailed account of the diagenesis and reservoir architecture of the Lowlander prospect, a downthrown fault block play. **Pearson & Duncan** investigate the value of biomarker maturity profiles for estimation of inversion in the Inner Moray Firth. The volume concludes with two field specific studies, an appraisal of the complex HP–HT gas condensate Puffin Field by **Dickinson** and an account of the development of the Ivanhoe, Rob Roy and Hamish fields by **Currie**.

The book is the product of papers drawn from two closely related meetings held under the auspices of the Petroleum Group of the Geological Society of London. The first, 'Geology of the Upper Jurassic Humber Group and its Equivalents: Models for Exploration and Production' was held in London in 1994 and the second 'Upper Jurassic Sandstones of the Moray Firth' was held in Aberdeen in September 1994.

Andrew Hurst
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