The petroleum geology of Ireland's offshore basins: introduction

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Extract

During the past few years a number of factors have combined to create renewed petroleum exploration interest in the Late Palaeozoic-Cenozoic sedimentary basins that virtually surround Ireland. These factors include recent discoveries in contiguous UK offshore basins, the perceived attractiveness of the Irish licensing terms, the apparent stabilization of the international oil price and recent advances in drilling and deep-water production technologies, combined with the realization by many oil companies that the Irish basins are only lightly explored.

Despite the relatively few wells drilled in the Irish offshore (118 exploration and appraisal wells in total), there have been a number of commercial and currently non-commercial discoveries. These occur in a range of clastic reservoirs of Jurassic and Cretaceous age and in different trap types. However, little of the detailed stratigraphic, sedimentological, structural or reservoir information from these discoveries and plays has been published to date (see selected bibliography). The principal aims of this volume are to describe the petroleum geology of the basins, present a comprehensive review of the results of recent exploration, and point to possible future trends in exploration in the region. In order to set the scene, we briefly review the geological setting and exploration history of the Irish offshore basins, and the licensing and infrastructural framework.

Geological setting and petroleum plays

Ireland is almost completely surrounded by Upper Palaeozoic to Cenozoic sedimentary basins, many of which have largely untested hydrocarbon potential (Fig. 1). Upper Palaeozoic (Carboniferous) basins occur onshore but have only local gas potential in the northwest of the…