

Petroleum Geology:
North-West Europe and Global Perspectives —
Proceedings of the 6th Petroleum Geology Conference

Volume 1

Petroleum Geology: North-West Europe and Global Perspectives — Proceedings of the 6th Petroleum Geology Conference

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Volume 1

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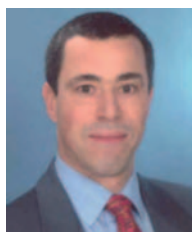
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Foreword

Over the past thirty years, the Petroleum Geology conferences and associated proceedings have provided an important backdrop to NW European exploration and production. The sixth conference in the series, *Petroleum Geology: North-West Europe and Global Perspectives*, follows the tradition of these previous conferences. The proceedings are in the thematic format of the conference itself, and the majority of papers presented in the conference appear as scientific contributions in the proceedings volumes. This foreword attempts to provide an insight into the unifying themes of the conference. We hope and believe that, as in previous conferences, this wide-ranging body of work is a useful reflection of the state of the science, as well as of the current preoccupations of NW European petroleum geoscientists.

North-West Europe, and the North Sea in particular, was recognized as a maturing petroleum province at the time of the fourth conference in 1992. It continues to mature, with increasing emphasis on optimization of production. However, the province continues to show a certain resilience and regenerative capacity, providing new insights into the exploration and production of oil and gas. There have been considerable advances in our knowledge since the fifth conference in 1997. The latter focused, in a large part, on the “final frontier”, the Atlantic Margin extending from Norway, through the United Kingdom and Faroes to Ireland. This area is again represented in a section entitled *Atlantic Margin: New Insights, Regional Synthesis and Large Scale Tectonics*, which brings the reader up to date with new activity including several recent discoveries, new datasets and new fundamental research. While it is probably true that this province has not delivered to date the petroleum potential some expected, the area is vast, the petroleum systems are present and the full story has certainly yet to be told.

On the other hand, many of the advances since the last conference have arisen from optimizing the exploitation of the mature areas. At an early stage of preparation, it was evident to the convenors that much of the customer base for the conference is now dedicated to creating value from exploration adjacent to infrastructure areas, through reservoir characterization, smart drilling, enhanced recovery, tail-end production, field rejuvenation and many other related activities. A large proportion of the conference and proceedings was therefore dedicated to reflecting this emphasis. The section entitled *Exploration Histories and Future Potential* illustrates how lessons learnt can provide new approaches into the prediction and identification of future potential. Similarly, with increasing focus on production activities, the section on *Better Recovery Through Better Reservoir Characterization* shows how, through case studies and by integrating new and existing technologies, there can be longer life expectancy from existing fields. Technology underpins recent advances in geoscience. The section on *Unlocking the Future with Innovative Geophysics* shows some excellent examples of our continued attempts to obtain more information from the geophysical signal, while *Understanding Petroleum Systems* takes a more generic approach to our search for oil and gas through geological modelling of a basin’s history.

A new feature of the sixth conference is a broadening of scope to include selected global perspectives. Petroleum geoscience is enriched from learnings worldwide, not least due to rapid international circulation within the workforce. North-West Europe benefits from importing ideas and concepts from analogous geological settings. Conversely, a mature North-West Europe, particularly the North Sea with its extensive, high-quality database, can act as an excellent natural laboratory for the export of ideas and concepts to other parts of the world. We therefore include papers on global issues, comparative studies between North-West Europe and other provinces, and studies of generic importance on such areas as the Gulf of Mexico and West Africa. The proceedings begin with a section on the *Global Resource Context*, containing two very different perspectives on the quantity and longevity of the world’s petroleum. This sets the scene for the subsequent sections, in particular that entitled *Gas Renaissance*. Gas is perceived by many to be the fuel of the future as oil supplies dwindle and as ever more creative ways are found for exploiting gas previously considered inaccessible or too far from markets. It is therefore appropriate to dedicate a section solely to gas, with subjects ranging from the global and generic to the local. The section on *Deepwater Plays and Reservoirs*, a focus of worldwide exploration and production over the past five years, is similarly wide-ranging and complements the section on the Atlantic Margin.

Petroleum geoscience is embarking on whole new ways of working. One example of this trend is the interactive DVD of these proceedings, which provides links from the main text to movies from the *3D Visions* section, and to the *Core Display* and associated posters. The *3D Visions* session was a first for a major geoscience conference. Many of the papers were presented in a truly immersive environment complete with presenter, “pilot” and 3D spectacles, and the session as a whole demonstrated the power of visualization to nurture creativity and to unlock new insights across a range of disciplines from field geology to 3D seismic. The *Core Display* was an outstanding feature at the two previous conferences, and the sixth conference was no exception. Here, for the first time, the DVD medium allows the core photographs and explanatory posters to be related immediately to the papers in the main text.

Inter-relationship is, in fact, a further thread running through the proceedings. Most of the sections embrace a spectrum of activities and scales from frontier exploration to mature production settings, and most incorporate recent technological advances. It will be evident that many of the papers could have been just as much at home in other sections, so a look through sections outside of the reader’s immediate interest will be rewarding. We sense a change from a period characterized by the ruthless pursuit of a single concept – such as seismic amplitudes and other direct hydrocarbon indicators—to a period that will see the re-emergence of holistic understanding of the petroleum system. In this context, the diversity and history of the petroleum geology of North-West Europe will continue to be a significant benchmark and reference for the future.

The sixth conference and these proceedings owe their success to the efforts of many dedicated individuals over a considerable period of time. We take this opportunity to thank each of these for their energy and enthusiasm, for a complex job well done in the shortest of timeframes, and for maintaining high scientific standards. We recognize that this success has been achieved at the same time as other competing demands for their skills and expertise. In particular, we thank all members of the Board, Organizing Committee and the Technical Committee, the latter as convenors for the conference itself, and subsequently as authors, referees and editors for the proceedings volumes. We also thank all our sponsor companies and universities for their support, whether this has been through direct funding or indirectly through provision of their staff’s valuable time. Finally, we thank the staff of The Geological Society Publishing House for preparing a reference that we are confident will continue the tradition of the previous five conference proceedings. We hope and trust that you will enjoy the proceedings and use them extensively as scientific background for the continued search for oil and gas worldwide.

*Tony Doré and Bernie Vining
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