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David N. Whitcombe¹, J. Marcus Marsh¹, Graeme Bagley¹, Andrew J. Lewis¹, John P. McGarrity¹, Tim Nash¹, Ronald S. Parr¹, Ian P. Saxby¹ (1) BP, Aberdeen, United Kingdom

Systematic Application of 4D in BP's NW Europe Operations

Following the delivery of commercial value from the application of 4D in the Forties and West of Shetland fields, BP has embarked on the systematic application of 4D in its NW Europe operations. Five data sets covering nine fields were acquired in the 2000 season, while four data sets are planned for the 2001 season.

In all cases a major objective is to influence infill well locations. Specific problems differ from field to field. In the West of Shetland area, the 4-D is a powerful tool in assessing communication. Forties is using it to identify unswept oil and to improve reservoir characterization for proposed EOR. In Montrose, the data is helping determine remaining options for field development. Accurate determination of the movement of the gas-oil contact is the key issue in Harding, and in Marnock the data will be used to improve the reservoir description.

4-D has become an important tool in reservoir interpretation and management in BP. Processing and interpretation of the datasets acquired in 2000 is well underway. Available results have been put to immediate use in solving problems of dynamic performance, and in optimization of the design and location of infill wells in a number of fields. Further surveys are planned for the 2001 acquisition season.