The Clair Discovery, West of the Shetland Isles

The cover depicts a structural map of the central part of the Clair oil discovery in the West Shetlands Basin. Although first discovered in 1977 by a well that produced 1500 barrels of oil per day, subsequent appraisal of the structure was disappointing and by the late 1980s production from Clair seemed unlikely. However, renewed interest is now being shown in the Clair discovery in the light of the application of new technology and other recent exploration successes elsewhere in the West Shetlands area. One component in gaining a fuller understanding of the oil discovery has been the use of 3D seismic data for structural analysis. The map was constructed from a closely-spaced grid of seismic lines, calibrated using the exploration well boreholes shown and contoured in two way travel time (milliseconds). The structure has been enhanced by oblique illumination from the SW, which allows the main tectonic components of the discovery to be demonstrated and subtle features and trends to be highlighted. The main ridge and the southern 'Esso Horst' areas of the discovery are particularly well defined (see adjacent figure). A better understanding of the discovery's main structure, its fracture orientation and the density of deformation within the main reservoir may be gained from the map. Integration of the advances in horizontal drilling technology with the increased knowledge from the advanced seismic interpretation suggests that the Clair discovery may soon be viewed as a commercial oilfield. As such, after 25 years of exploration activity on the UK Continental Shelf, it now may become one of a number of potential producing oilfields in the West Shetlands-Atlantic Margin frontier area.

John R. Underhill
Department of Geology and Geophysics
University of Edinburgh

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