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**"The Role and Value of Biosteering in Reservoir Exploitation"**

Of all the recent developments in the role of production biostratigraphy, none has had a more immediate and perceptible impact than biosteering. Driven by the need for reservoir-scale stratigraphic control during the drilling of high angle and horizontal wells, biosteering has become a fundamental and cost-effective part of the geosteering tool-kit. The resultant optimisation of well-path has provided substantial savings in drilling costs, boosted reserves and well productivity.

Production biostratigraphy entails high resolution reservoir subdivision into discrete, correlatable time-slices, using field-specific microfossil bioevents. This frequently provides greater precision than seismic and greater discrimination than wireline logs. Biosteering enables this subdivision to be defined whilst drilling, providing a real-time monitoring of well-path relative to reservoir. This allows reservoir penetration to be maximised by discriminating between non-pay above, below and within the reservoir, and defining unpredicted exits due to sub-seismic faults. Through the use of biosteering well trajectory can be redirected back into reservoir. Furthermore, in the supra-reservoir interval, well angle-build can be calibrated to optimise reservoir entry, using ongoing comparison with offset data to predict proximity to top reservoir, and TD can be called with the assurance that all pay intervals have been penetrated. Of substantial benefit to high resolution biostratigraphy in high angle wells is the oblique cutting of stratigraphy, giving a greater long-hole penetration of individual time slices, allowing an enhanced resolution relative to vertical offsets.

Case histories are described from a range of clastic and carbonate facies from the North Sea, Colombia and Sharjah, using different microfossil groups.