**Decision Tree to Determine the Key Failure Mode for Segments in Conventional Petroleum Prospects**

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Petroleum exploration is a risky business, and dry holes (wells that failed to find movable petroleum fluids) are common, especially in frontier and emerging basins and plays. Technically rigorous, systematic and consistent postdrill analysis may convert dry holes from disasters to exploration wisdom and future success. We present a decision tree to determine the key failure mode for individual segments in conventional petroleum prospects and illustrate its utility with examples from the deepwater Taranaki Basin, offshore New Zealand. We hope that this decision tree, or its customized versions, will become the best practice in postdrill analysis across the exploration industry.