

# **Quantitative Evaluation Techniques for Petroleum Systems and Their Application**

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Quantitative evaluation of petroleum system analysis is to reconstruct the temporal-spatial evolution of the essential elements and relevant geological processes that are responsible for the formation of effective petroleum systems. On the basis of petroleum system modeling and through subdivision and detailed analysis of hydrocarbon migration- accumulation units (MAU) both the resource potential and the distribution of target plays can be quantitatively assessed. During the PetroChina's recent hydrocarbon reserve assessment, quantitative modelling and analyses of petroleum systems and their MAU were widely performed in the major petroliferous basins of PetroChina. This has greatly enhanced the objectivity of exploration target prediction and significantly reduced hydrocarbon exploration risks.