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Predicting fluid-flow in naturally fractured reservoirs

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Predicting the flow of fractured reservoir fluids is a key factor in making the right field development decision, such as the placement of future wells. In any field, accurate flow models are difficult to achieve simply because of the scarcity of data from existing wells and outcrops. In fractured reservoirs, the problems are compounded by the highly heterogeneous nature of the rocks. So, predicting fluid flow behavior in naturally fractured reservoirs is a challenging area in petroleum engineering. Successful extraction of hydrocarbons from many remaining domestic exploration and development targets depends on the creation of new approaches to predicting natural fracture attributes. So, we must develop new understanding and new technology for prediction of fracture-pattern attributes related to subsurface fluid flow. In recent years interest has increased considerably on flow and transport in low-permeability fractured rock. Two classes of models used to describe flow and transport phenomena in fracture reservoirs are discrete and continuum (i.e. dual porosity) models. n the other hand, the diagonal representation of permeability, which is customarily used in a dual porosity model, is valid only for the cases where fractures are parallel to one of the principal axes. Abdollah has graduated in petroleum engineering. He has more than 25 years of industry expertise in the Middle East, amongst others as senior petroleum engineer at National Oil Companies and course lecturer for Petroleum Engineering at universities in the Middle East, Europe, Asia and Africa. Furthermore, he is leading international workshops and master classes and has presented numerous papers as expert speaker at international conferences throughout the Middle East, Asia, Europe, Latin America and Africa. He is author of numerous articles published in International journals, covering the wider range of gas production, exploration, and processing in great depth.

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