
Understanding reservoir behavior through an integrated geological and engineering studies

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In order to determine the character and behaviour of reservoir rocks, geological and engineering data need to be gathered, intergrated and understood. This paper illustrates how such a multi-disciplinary approach has been applied to a suite of sandstone reservoir rocks and how particular questions about reservoir behaviour were answered.

Samples were chosen for detailed study from a successful oil and gas producing well in the South East Asian Region. Two differing formations were sampled, the lowermost of which was given a pessimistic prognosis based on V_{shale} calculations. A program of Advanced Rock Properties tests and detailed sedimentological and petrographic analyses was carried out on the chosen samples. The results showed that a large proportion of the clay encountered in the lowermost formation was contained within grains, rather than in the matrix as had been initially assumed, explaining the better than expected reservoir performance.

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