

Determination of Fluid Entry in Eocene Producers of Upper Assam Basin with the Help of New and Advanced Production Logging Tool

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The complex production logging environment has driven the need to develop new production logging sensors and interpretation methods to provide data for confident remedial interventions. Here, we not discussed an integrated PL tool that samples production volumes more representative of borehole fluids, having a better investigation radius than before. How technological advances have helped in pinpointing fluid entries in producers in multiphase flow. Advent of PL tool such as Gas holdup that can directly measure gas fraction irrespective of deviation or flow regimes, however careful in-situ calibration can provide good results with the tool. Full bore flow rate measurements with highly sensitive sensor having coverage close to borehole diameter can determine accurate volumes. However, in the flip side these spinners cannot measure directly individual phase rates. In interpretation process, given few rates, the dynamic flow model would predict the down hole flow regimes and slip values of phases and thereby holdups. With the holdup information and PVT model fluid properties, the model would then compute simulated fluid density flowing down hole. The transfer function of the tool is now used to predict theoretical density as would be measured by tool. Another grey area discussed is the PVT data so critical to define accurately a model in the interpretation process; accurate PVT data helps in prediction of reservoir phase properties that ultimately helps in good reservoir management. In the study some of these tools have been used in combination to provide solutions to down hole problems, inspite of few inherent tool limitations. The PL data of two wells of upper Assam have been studied to provide an insight of major source of unwanted gas and water problem.