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Phase Behaviour in Tight Lower Cretaceous Formation

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The influence of porous media on phase behaviour is a topic of interest driven by the shale gas boom because many field observations suggest the saturation pressure in tight shale formation may change dramatically. It is also expected that the extremely low permeable Lower Cretaceous (LC) rock may influence the phase behaviour of the reservoir fluid. However, the extent of the influence needs to be estimated. In this work, we plan to study the influence of the capillary pressure on phase behaviour for fluids of interest to the LC formation using PVT modeling tools that will be validated experimentally. Bubble point measurements at different pressures inside Controlled Pore Glass (CPG) samples will be performed for pure components and hydrocarbon mixtures using calorimetry techniques. The validated model will then be used to evaluate the impact of the phase behaviour in a real production scenario using customized reservoir simulation tools.