Special Issue

Heavy Oils Conversion Processes

Message from the Guest Editors

Thermal enhanced oil recovery methods are attracting wide interest for exploitation in heavy oil deposits. It is common knowledge that the exploitation of such oils is associated with various physical and chemical processes depending mainly on the chemical conversion of resins and asphaltenes. However, resins and asphaltene destruction generally results in reduced oil viscosity and its increased mobility through the porous medium of reservoir rock. Moreover, some rock components may catalyze the processes that result in asphaltene and resin destruction. For this reason, many studies have been performed on the impact of different catalysts and reagents on intensifying resin and asphaltene destruction on oil composition, and showed an increase in the content of light saturated and aromatic hydrocarbons. In addition, the role of hydrogen donors in ensuring conversion is important, though more work is needed to address the effect of plate salts and pH on the conversion of asphaltenes and the functioning of catalysts embedded in the formation.

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