

Special Issue

Heavy Oils Conversion Processes (II)

Message from the Guest Editors

The use of thermal enhanced oil recovery methods are attracting wide interest in exploiting heavy oil deposits. The exploitation of such oils is associated with various physical and chemical processes depending mainly on chemical conversion of resins and asphaltenes. However, resins and asphaltene destruction generally results in reducing oil viscosity and increasing its mobility through the porous medium of the reservoir rock. The correlation between the reactions occurring within the reservoir and mineral composition and properties of the reservoir rock is noteworthy because of the influence generated from the latter factors on the process mechanisms. Moreover, some rock components may catalyze the process of asphaltenes and resins destruction. For this reason, many studies have been performed on the impact of different catalysts and reagents on intensifying resins and asphaltenes destruction and have shown an increase in the content of light saturated and aromatic hydrocarbons in oil composition. In addition, the study of the effect of plate salts and pH on the conversion of asphaltenes and the functioning of catalysts embedded in the formation still needs further improvement.

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