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The influence of transition metals–Fe, Co, Cu on transformation of organic matters from Domanic rocks in hydrothermal catalytic system

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Abstract

© 2018, © 2018 Taylor & Francis Group, LLC. Character of conversion of organic matter from Domanic rocks of Pervomaiskoye field (Tatarstan) of Semiluki horizon of upper Devonian deposits in the hydrothermal-catalytic system at temperature of 300 °C in carbon dioxide medium was studied with the application of complex of oil-soluble precursors of catalysts containing Fe, Co, and Cu. In presence of catalysts complex, content of organic extract increases, in which content of hydrocarbon fractions, saturated and aromatic hydrocarbons, increases 1.5 times, while resins content decreases by two times. As result of kerogen destruction in products of experiments, the content of asphaltenes and carbonaceous substances such as carbenes and carboides increase.

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Keywords

catalyst, Domanic rock, hydrocarbons, hydrothermal-catalytic effect, kerogen, organic matter

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