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Finely dispersed minerals in destruction zones of deep horizons - catalyzers of geofluid transformation

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Abstract

© SGEM2015. Based on experimental simulation implementation of catalytic mechanism of generating hydrocarbon systems containing gas and liquid phases from methane is revealed in destruction zones of the crystalline basement of Eastern Russian Plate. Catalytic activity of finely dispersed clay minerals of destruction zones is studied in the presence of reservoir water. Simulation experiments showed possibility of generating gaseous and liquid petroleum hydrocarbons in destruction zones of the crystalline basement of paleo platforms. Generation process is carried out under the catalytic activity of natural finely dispersed clay associates in the presence of promoting additives in reservoir water. Hydrocarbon content is determined by the ratio of intermediate compounds formed as a result of partly implemented steam reforming, their conversion by Fischer-Tropsch mechanism into different sealing products. Such zones of the crystalline basement in deep horizons can act as a “chemical reactor” for generating hydrocarbon systems, the total yield of which is defined by duration of initial components contact.

Keywords

Catalytic activity, Clay minerals, Destruction zones, Hydrocarbon systems