

International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM 2017 vol.17 N11, pages 565-574

Temperature dynamics of organic matter of the bazhenov suite from electron paramagnetic resonance

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Abstract

© SGEM2017. All Rights Reserved. Revealing the conditions and mechanisms of evolution of oil deposit based on optical and electron microscopy, electron paramagnetic resonance (EPR) is a necessary step to create improved of recovery methods. Application EPR for study temperature, mechanical and radiation dynamics of organic matters were presented in this communication. The subject of the investigation was the core material from Bazhenov suite (East Siberian oil and gas province). In order to reveal the features of the material composition and the generation potential of the organic matter of rocks, the EPR spectra of the Bazhenov suite samples were investigated. Methods of chloroform extraction, isothermal treatment at a temperature of 350°C and 600°C in hydrogen atmosphere for samples from core section were used. The main hydrocarbon generation zone was established during the degradation of kerogen at 350°C. The inhomogeneity of distribution of carbonate matter is revealed. The main phase of oil generation in the area of 350°C is accompanied by the destruction of kerogen and the formation of a liquid phase of hydrocarbons and leaching of iron. Potential hydrocarbon generation opportunities are associated with destruction of kerogen at 350°C.

<http://dx.doi.org/10.5593/sgem2017/11/S01.071>

Keywords

Bazhenov suite, Electron paramagnetic resonance, Oil deposit, Organic matter

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