

Studying the structure of difficult structural unit of high-viscosity oil of the Zyuzeevskoye field by means of structural and dynamic analysis on the basis of a NMR and rheological researches

Kemalov A., Kemalov R., Valiev D.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

There are carried out physic-chemical researches of oil of the Zyuzeevskoye field. The atmospheric distillation is carried out for an assessment of the potential maintenance of light fractions. Its established that Zyuzeevskoye field's oil is heavy high-sulphurous, highresinous, low-paraffinic oil of the aromatic basis with the average maintenance of light fractions. The structure of oil disperse system (ODS) was studied by nuclear magnetic resonance, and durability given to the ODS - on change of rheological characteristics. The disperse structure of considered oil was estimated at backs - a spin relaxation on size of molecular mobility of its components. Results of work can be useful to experts in the field of development high-viscosity oils and natural bitumens to an assessment of complex influence of their natural structure with a potential group chemical composition.

Keywords

Difficult structural unit, High-viscosity oil, Oil disperse system, Pulse nuclear magnetic resonance (NMR) spectroscopy, Rheology, Thermodynamics