

## INNOVATIVE TECHNOLOGIES IN THE OIL AND GAS INDUSTRY

### MODELING OF PARAFFIN WAX DEPOSITION PROCESS IN POORLY EXTRACTABLE HYDROCARBON STOCK

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*Asphalt-resin-wax deposits formed during modeling of the process of formation of deposits from oil considered hard to extract are studied. The mechanisms of asphalt-resin-wax deposition that occurs due to different contents in them of high-molecular-weight components and their properties are disclosed. It is shown that oil paraffin hydrocarbons and asphaltenes are redistributed between the oil and the asphalt-resin-wax deposited from it.*

**Keywords:** *deposit, crystallization, paraffins, wax, asphaltoreinous matters, asphaltenes, high-molecular-weight components, oil.*

At present in connection with depletion of the reserves of large-scale deposits the industry is faced with the need to develop poorly studied territories and horizons and to seek, explore, evaluate, and assimilate poorly extractable reserves and nontraditional hydrocarbon stock. On examining the chemical composition of such hydrocarbon resources it can be seen that a significant part of them comprises high-molecular components such as solid paraffin hydrocarbons and asphaltenes. They are also marked by non-uniform composition and a tendency for structure formation with change of thermodynamic conditions, leading to fall of the high-molecular components on the refining equipment and in the bed. On the attainment of the critical concentration the high-molecular paraffin hydrocarbons serve as sites for crystallization of the complex

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