

Use of the Gas Chromatography Method for Hydrocarbons' Quality Evaluation in the Offshore Fields of the Baltic Sea

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Abstract : Currently, there is an active geological exploration and development of the subsoil shelf of the Kaliningrad region. To carry out a comprehensive and accurate assessment of the volumes and degree of extraction of hydrocarbons from open deposits, it is necessary to establish not only a number of geological and lithological characteristics of the structures under study, but also to determine the oil quality, its viscosity, density, fractional composition as accurately as possible. In terms of considered works, gas chromatography is one of the most capacious methods that allow the rapid formation of a significant amount of initial data. The aspects of the application of the gas chromatography method for determining the chemical characteristics of the hydrocarbons of the Kaliningrad shelf fields are observed in the article, as well as the correlation-regression analysis of these parameters in comparison with the previously obtained chemical characteristics of hydrocarbon deposits located on the land of the region. In the process of research, a number of methods of mathematical statistics and computer processing of large data sets have been applied, which makes it possible to evaluate the identity of the deposits, to specify the amount of reserves and to make a number of assumptions about the genesis of the hydrocarbons under analysis.

Keywords : computer processing of large databases, correlation-regression analysis, hydrocarbon deposits, method of gas chromatography

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