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UDC 001.4:552.378

DEFINITIONS AND TERMINOLOGY OF HYDROCARBON-BEARING SHALE FORMATIONS AND TIGHT RESERVOIRS (p. 4)

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The definition framework developed and applied by the authors, which aims at determining both hydrocarbon properties and parameters of unconventional shale reservoirs – source rocks, being simultaneously reservoirs for produced oil and gas, is presented. The schemes of conventional and unconventional petroleum systems are analyzed.

Key words: hydrocarbons; petroleum system; source rock; unconventional shale reservoir.

UDC 553.98(571.1)

HISTORICAL RETROSPECTIVE AND CONTEMPORARY STAGE OF EXPLORATION IN THE NORTHERN REGIONS OF THE WESTERN SIBERIA (p. 15)

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The paper considers history and assesses the state of exploration in the territory of Yamalo-Nenets national (autonomous) territory. It also analyses the main problems of reproduction of mineral-raw material base of the region in contemporary conditions.

Key words: the Western Siberia; Yamalo-Nenets autonomous territory; area of oil and gas accumulation; hydrocarbon resources density; oil- and gas-bearing complex; reservoir; clinoform; hydrocarbon reserves; planned wells.

UDC 550.835.2+550.849

CLARIFICATION OF GEOLOGICAL STRUCTURE OF HYDROCARBON DEPOSITS BY THE DATA OF GEOLOGICAL-CHEMICAL METHODS OF EXPLORATION USING RADON-HELIUM SURVEY (p. 29)

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The results obtained during conducting of radon-helium survey at the studied territories allowed substantiating the effect of tectonic faults and hydrocarbon fault-lines on gas fields in the soil layer, showing abnormal gas concentration as well as identifying the mechanism of the anomalies formation.

Key words: radon; helium; radon helium survey; gas-geochemical survey; hydrocarbon anomalies; formation; hydrocarbon deposits.

UDC 553.98(571.66)

SOME SPECIFIC FEATURES OF GEOLOGICAL FRAMEWORK OF STOLBOVSKAYA DEPRESSION (THE EASTERN-KAMCHATKA TROUGH) AND PROSPECTS FOR AVAILABILITY OF OIL AND GAS POTENTIAL BASED ON BASIN MODELING (p. 35)

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The paper deals with the main geological results of seismic survey conducted in Stolbovskaya depression of the Eastern Kamchatka trough. Great attention was paid to prognosis of availability of oil and gas potential in the territory made on the basis of application of basin modeling and hydrocarbon systems technologies. Rather small prospects for detecting of hydrocarbon commercial accumulations can be justified by insufficient regional submersion of the basin generation complexes till the main zone of oil generation in the region. The conclusion is made about essential influence of the mechanism and scales of magmatism on quantitative parameters of the predicted deposits within the limits of Paleocene-Eocene sedimentary-rock complexes of Stolbovskaya depression. Spatial location of hydrocarbon accumulations is affected by the history of conducting and sealing properties of faults. Specification of stratification of the suits revealed by the seismic survey data after drilling of 1-Ust-Kamchatskaya stratigraphic well and continuation of work relating to the analysis of the predicted generation-accumulation
systems should be used to solve the problems of availability of oil and gas potential in the Eastern-Kamchatka trough.

Key words: the Eastern-Kamchatka trough; forearc trough; oil-and-gas potential; heat flow; dynamic catagenesis; basin modeling; petroleum systems modeling; stratigraphic well.

UDC 553.98

SOME ASPECTS RELATING TO HYDROCARBON DEPOSITS PROSPECTING IN INTER- AND UNDER-ANHYDRITES OF SERPUKHOV AGE IN TIMANO-PECHORSKY BASIN (p. 44)

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Anhydrites of the Serpukhov age in the Timano-Pechorsky basin are a good seal and under favorable conditions (presence of structure, collector, hydrocarbons migration, etc.) they form hydrocarbon accumulations. This fact is witnessed by discovery of inter- and under-anhydrate deposits in carbonates and numerous signs of availability of oil and gas content in them. Thus, for the first time presence of sulfate-carbonate thickness built by anhydrites and carbonate deposits is fixed within the boundaries of Verkhnepechorskaya depression. Even thin anhydrite layers appear reliable seal for hydrocarbon deposits in coal formations. Deposits delineation requires mapping of anhydrate seals bottom. This will allow more exact definition of contour and volumes of perspective objects and reduction of risks that can appear during drilling.

Key words: anhydrites; serpukhov age; deposit; Timano-Pechorsky basin; Verkhnepechorskaya depression.

UDC 530.831

ONE MORE REASON FOR INSTABILITY OF GRAVITATIONAL FIELD OVER HYDROCARBON DEPOSITS (p. 51)

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It is supposed that instability of gravitational field over hydrocarbon deposits can be caused not only by changes of rocks density in a deposit and over it but also by active oil feeders, displayed on seismic time sections in the form of sub-vertical dynamic anomalies or by faults traditional signs. It is also noted that the stated above reasons can occur when explaining the nature of the anomalies detected over hydrocarbon deposits by passive seismic survey.

Key words: instability of gravitational field; oil feeders; hydrocarbon deposits.

UDC 550.4.41

OILS FINGERPRINT IN AZERBAIJAN (p. 54)

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The paper discusses the process of searching for prospective areas within Bolshie-Kinelsky swell territory recommended for drilling with the aim of their further commissioning. Only those elevations that represent possible oil and gas traps and were identified by the largest number of seismic profiles were subject to analysis and study. Some criteria for identifying promising local elevations, where availability of oil deposits is being predicted, are proposed. Some methodology of assessing of oil resources that these elevations can posses, based on using fields-analogues, is given. Eight promising local elevations, which predicted the presence of oil deposits with reserves, comparable with the value of the reserves of fields-analogues were identified and recommended for drilling during conducting work of searching for new oil deposits in the territory of Bolshie-Kinelsky swell.

Key words: prospective areas; elevations; identification; Bolshie-Kinelsky swell; oil deposits; seismic surveys; calculation of reserves.