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New Data of Modern Active Geofluid Regime of Fractured Zones of Crystalline Basement and Sedimentary Cover in Eastern Part of Volgo-Ural Region

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On the basis of methodic of geodynamic analysis , principles of plate-tectonic zonation, model of eastern part of Volgo-Ural was described. For the first time the types of typical sedimentary basins and the standard types of natural oil and gas reservoirs are distinguished. The models of anomaly fractured reservoirs in crystalline basement (CB) formation caused by dilatancy and detachement processes are thoroughly substantiated. Methodics of integrated interpretation of geological-geophysical and aerocosmic data is substantiated to forecast anomaly fractured reservoir rocks in crystalline basement and bottom layers of sedimentary cover, according the modern deformational stress state of rocks. The tectonic evolution of the Volgo-Ural Region since the Late Proterozoic time is characterized by periodical vertical and horizontal movements. Geodynamic processes have produced numerous dislocations in the crystalline basement of South-Tatar-Arch (STA), which have been revealed by the exploratory drilling. There are many wells in the territory of Tatarstan and Romashkino oil field that penetrated the crystalline basement (CB) to a depth from 30-50 m to 4 km and can give information on its fractured zones, fluid and gas content. As a result of it crystalline basement can be considered as a potential target for hydrocarbon exploration. Geophysical and geological investigations have indicated that numerous reservoir zones in the CB are traced of bitumen and fluids enriched with dissolved hydrocarbon gases. The main problem of research was: (1) to study connection between fluids in fractured zones in CB and oil from sedimentary cover; (2) to establish an opportunity of active vertical migration of fluid from CB to Paleozoic rocks and

existence of that modern vertical migration. The exhausting characteristics of regional geological-tectonic, geomorphological and deep tentative specifications of environment with reference to practical problems of plate-tectonic zonation of Volgo-Ural region and modern fluidodinamic regime of basement and sedimentary cover. New data of monitoring of composition of deeper water (from fractured zones of crystalline basement), soluble gas (including hydrocarbon) during more than 5 years in special wells gives evidence about modern geodynamic and fluid activity of fractured zones and fluid active systems, existed at the top of the earth crust (including crystalline basement and sedimentary cover) in active edge of the Volgo-Ural platform (in separate stage of geological development).