

SUPERDEEP FLUIDODYNAMICS AND GEOCHEMISTRY OF THE RUSSIAN PLATE CRYSTALLINE FOUNDATION

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Studies of crystalline foundation fluidodynamics and geochemistry in different Russian Plate areas are realized on the 3 well example: Minnibaevskaya, depth - 5099 m; Novoelkhovskaya - 5500 m and Kola Superdeep, 12266 m. The method of interval by interval complex of geological-geophysical interpretation including the detailed interpretation of all geophysical and hydro-geological studies was widely used. Fluidodynamics and geochemistry processes are closely bound to the processes of metamorphism, ore generation with migration of deep brines, gas-and-oil-bearing fluids and have long-lived history and particular trend in different Russian Plate parts. In particular, the essential discrepancies of crystalline formation fluidodynamics and geochemistry in oil-and-gas-bearing and ore bearing areas are detected. Deformations and secondary variations rendering strong influence on fluidodynamics are distributed extremely non-uniformly in the above mentioned wells. Relatively impermeable zones and zones of long-term fluid migration are detected. Special role is played by deep faults of different genesis, which have various geochemical characteristics in different areas of Russian Plate. Oil-and-gas bearing areas (Minnibaevskaya and Novoelkhovskaya wells) are characterized by young active faults with intensive late bituminous fluid showing. The most ancient faults healed by different formations of dike complex are characteristics of ore bearing areas (Kola Superdeep). The fault areas on contacts of shoulder crystalline rock steep dikes are of the special value for ore generation processes. The majority of anomalies of fluidodynamics and ore generation and showing of sulfide mineralization with mixture of Ag and Au is related to such zones of increased permeability in Kola Superdeep section.