

NON-TRADITIONAL PETROPHYSICAL PREMISES PROPOSING FOR ORE BODIES EXPLORATION

¹VLADIMIROV, V.D. ¹Sofia University St. Kl. Ohridski, Sofia, Bulgaria

The ore bodies in monotonous volcanic rocks localized without obvious relationship with any traditional geological structures create a number of problems for exploration. Presented research, aims to help with involving new petrophysical premises, to ore body exploration. The Structural petrophysical analysis was applied and the following parameters was obtained: effective porosity, conditional momentary saturation, quantity of large, medium, small pores, saturation constant, density, ultrasonic waves velocities (P- and S-waves), Poisson's ratio, Young's & shear modules, Debye temperature, etc. About a hundred different rock and ore samples were investigated. Thus in the different cases 7 or 8 groups of rocks are received united in two orepetrophysical-geochemical complexes. The first of them includes rocks with good filtration properties and low metal contents. In this complex the hydrotherms flowed intensively and there weren't conditions for deposition of ore components at time of ore formation. If they were in it, were extracted and carried away. The second complex includes rocks with bad filtration capabilities, high values for elastic-density properties and high contents of ore and other trace elements. At the time of ore formation the rocks of this complex were barriers- concentrators for ore substance. They build blocks with wedge-shaped form. The ore bodies are located in their peripheral areas at the places of their wedging.