

MAIN FEATURES OF THE HYDROTHERMAL ORE-FORMING PROCESSES WITHIN SALT DOMES

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Within salt dome regions of the large sedimentary depressions there is relation between hydrocarbon forming and hydrothermal ore-forming processes at the all stages of the region development. Primary paragenesis of the potentially oil-producing bitumenous rocks, red bed formations containing Cu, Pb, Zn, Ag exogenetic concentrations, evaporate formations (also salt stratas with the thickness 1km) leads to synchrony formation of the salt criptodiapires, oil, gas and hydrothermal ore-forming solutions. The salt penetration into the upper horizons of the sedimentary cover allows joint migrating of the hydrocarbons and hydrothermal brines to a differ thermodynamic condition zone. The hydrocarbon-orebearing fluid experiences delution with meteoric waters, degasification and sharp cooling. A part of hydrocarbons is spended for sulphate-reduction, and oil-similar matters are polymerized for a hard state. Under these conditions hydrocarbons (bitumen) take part in both hypogenetic (Pb, Zn, Cu, Hg) and exogenetic (U, Mo, Se, V) ore formation. Mathematic modeling of the hydrothermal ore-forming process related with the brines of the Carboniferous rocks within the Dnieper-Donets depression (Ukraine) at the temperature 99oC has been made. This data confirmed that the base-metall ores of the salt dome type deposits of this area were formed by deep-seated brines of the Dnieper-Donets depression.