

## Hydrogeological Factors of the Ore Genesis in the Sedimentary Basins

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**Abstract :** The present work was made for the purpose of evaluating the interstitial water's role in the mobilization of metal elements of clay deposits and occurrences in sedimentary formation in the hydro-geological basins. The experiments were performed by using a special facility, which allows adjusting the pressure, temperature, and the frequency of the acoustic vibrations. The dates for study were samples of the oil shales (Baltic career, O<sub>2</sub>) and clay rocks, mainly montmorillonite composition (Borehole SG-12000, the depth of selection 1000–3600 m, the Azov-Kuban trough, N<sub>1</sub>). After interstitial water squeezing from the rock samples, decrease in the original content of the rock forming components including trace metals V, Cr, Co, Ni, Cu, Zn, Zr, Mo, Pb, W, Ti, and others was recorded. The experiments made it possible to evaluate the ore elements output and organic matters with the interstitial waters. Calculations have shown that, in standard conditions, from each ton of the oil shales, 5-6 kg of ore elements and 9-10 kg of organic matter can be escaped. A quantity of matter, migrating from clays in the process of solidification, is changed depending on the lithogenesis stage: more recent unrealized deposits lose more ore and organic materials than the clay rocks, selected from depth over 3000 m. Each ton of clays in the depth interval 1000-1500 m is able to generate 3-5 kg of the ore elements and 6-8 kg of the organic matters. The interstitial waters are a freight forwarder over transferring these matters in the reservoir beds. It was concluded that the interstitial waters which escaped from the study samples are solutions with abnormal high concentrations of the metals and organic matters. In the discharge zones of the sediment basins, such fluids can create paragenetic associations of the sedimentary-catagenetic ore and hydrocarbon mineral resources accumulations.

**Keywords :** hydrocarbons, ore genesis, paragenesis, pore water

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