

## **KINETIC AND FILTRATION PROCESSES IN FRACTURED LAYERS OF THE UPPER CRUST**

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An analysis of magnetotelluric and seismic data as well as results of a study of deep and superdeep boreholes give basis to suggest that there are crust waveguides located in the at the depth of 10 to 15 km. As a result of oscillatory and wave processes taking place in these structures, large amounts of fluids are periodically migration up and down in the upper crust. The fluids are moving through such waveguides in a horizontal direction also. These migration phenomena play an important part in the generation of ore deposits and hydrocarbon fields. There should exist a low-permeable layer above a waveguide to maintain the self-exiting fluid regime in such waveguide. The molecular forces of interaction with host rocks in low-permeable and low-porous layers are responsible for some effects. Properties of fluids in these layers differ from those of the same fluids placed in cavities and large fractures drastically. Particularly, the solubility of mineral and hydrocarbon materials drastically grows as well as the role of kinetic processes. At the very high gradients of pressure and temperature the process of fluid partial evaporation takes place. In that case one shall consider the intraporous motion of a vapor-liquid mixture through low-permeable rocks. Such motion is characterized by the predominance of diffusion and electrochemical processes of mass transfer. We created a model describing diffusion motion of the vapor-liquid mixture in low-permeable layers under high gradients of temperature, pressure, concentration, and electrochemical potential.