

GEOLABORATORIES IN RUSSIAN SUPERDEEP WELLS

KHAKHAEV, B.N., GUBERMAN, D.M, PEVZNER, L.A., PEVZNER, S.L., PISARNITSKY, A.D., RABINOVICH, Yu.I., YAKOVLEV, Yu.N. Scientific-Industrial Center for Superdeep Drilling and Comprehensive Investigations of the Earth's Interior Nedra, Yaroslavl, Russia

Geolaboratories in Russian Superdeep Wells KHAKHAEV, B.N., GUBERMAN, D.M, PEVZNER, L.A., PEVZNER, S.L., PISARNITSKY, A.D., RABINOVICH, Yu.I., YAKOVLEV, Yu.N. Scientific-Industrial Center for Superdeep Drilling and Comprehensive Investigations of the Earth's Interior Nedra, Yaroslavl, Russia During 5 years (the Kola Superdeep Well) and 7 years (the Vorotilov Well) after completion of drilling periodical geophysical and geochemical investigations have been carried out in the boreholes. A set of investigations includes thermometry, electric logging, resistivity log, sonic logging, radiation logging, caliper log, fluid sampling and observations on fluid level and temperature. Variations of geophysical (thermal, seismic-acoustic, electromagnetic, radiation and others) and geochemical (mud composition in the borehole) fields with different periods were identified. A long time of relaxation of medium was found. The most sensitive parameters which effected this process were temperature and composition of the mud in the borehole. Technogenic variations of fields were studied and experiments were carried out to evaluate how they are influenced by short-time dynamic effects (flushings, lowering of a cable with a tool). Temperature is the most sensitive to these variations. Natural variations of fields (seasonal and tidal) with different periods were identified against a regular course of technogenic variations. Local anomalies of fields related to a fluid regime were identified.