

A TECHNOLOGY FOR SEGREGATING GEOLOGICAL BODIES DIFFERENT BY THEIR CLASS IN SUPERDEEP WELLS BY LOGGING DATA

ESIPKO, O.A., NERONOVA, I.V., PEVZNER, L.A. Scientific-Industrial Center for Superdeep Drilling and Comprehensive Studies of the Earth's Interior Nedra, Yaroslavl, Russia

A technology for segregating geological bodies different by their class in superdeep wells by logging data ESIPKO, O. A., NERONOVA, I. V., PEVZNER, L. A. Scientific-Industrial Center for Superdeep Drilling and Comprehensive Studies of the Earth's Interior Nedra, Yaroslavl, Russia. One of the main objectives of geophysical investigations in superdeep wells drilled into the crystalline rock is to divide a well log into geological bodies. Successful solution of the problem under discussion depends on obtaining of reliable data about a geological section and development of a cost-effective drilling technology. By using the data from superdeep wells we developed and tested an automated technology for dividing well logs into geological bodies different by their class and type based on a set of geophysical parameters. The technology segregates geophysically homogeneous intervals by logging data and distinguishes petrotypes based on interpretation of logging data and petrophysical characteristics of the core. By the set of obtained data we divide the interval under interpretation into geological bodies of classes I, II, III and IV. By using the given technology we have processed the logging data from wells in volcanic-sedimentary (the Ural Superdeep Well) and metamorphic (the Vorotilov Deep Well) rocks. The work allowed to specify and partially reconstruct a geological setting of sections in the intervals where core recovery had been low or zero. Comparison of the obtained data with sampling results demonstrated that reliability of determination of petrotypes averages 70% and in many cases disagreement regarding the boundaries and thickness of the geological bodies under segregation does not exceed several meters.