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Artificial Neural Networks Approach for Estimating Filtration Properties of Drilling Fluids

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Filtrate volume and permeability of filtercake are two main properties of drilling fluids. During this decade, various ways for estimating of them are proposed. In this study, a new approach based on artificial neural networks (ANNs) has been designed to estimate filtrate volume and permeability of filtercake using the static filtration data. In this speeding up approach 75% of experimental data have been used to train the neural network and the remaining data have been applied to test the performance of the network. Finally, the estimated results of filtrate volume and permeability of filtercake obtained from the network have been compared against the values obtained by empirical correlations used for calculation of these parameters.

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