Total organic carbon prediction in shale gas reservoirs using the radial basis function neural network

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The aim of this study is to show the power of the Radial Basis Function neural network to predict the Total Organic Carbon (TOC) in shale gas reservoirs. TOC is an important petrophysical parameter which is required in the characterization of a given shale play. Our model is based on the training of an RBF machine in a supervised learning mode using well-logs data as an input and core rock TOC measurements as a desired output. Application to two horizontal wells drilled in the Lower Barnett, where the first well is used for the training and the second well is used for generalization clearly shows that the Radial Basis Function neural network machine can used in shale gas exploration. Keywords: Shale gas, RBF, training, TOC, Barnett shale.

Пълно органо-въглеродно прогнозиране за газови резервоари чрез радиално структурирани невронни мрежи

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