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Petrophysical analysis and prediction of low resistivity pay zone at well 'A' at field 'X'**Muhammad Rivaldi Anwar Putra, Diandri Fakhri A, Santika Satya W and Ir Jarot Setyowiyoto**
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The zone which has a high resistivity value is identical to the hydrocarbon bearing zones, however zones with low resistivity tend to be ignored as a hydrocarbon zones. In fact, at some oil and gas fields in several countries such as Indonesia, China and America showed that hydrocarbon zones can be formed in the zones with low resistivity. Therefore, this study aimed to evaluate the hydrocarbon zones with low resistivity in wells "A", at the field "X" between depths of 5514-5523 feet MD. Log data and core data are used in this study whereas the research is conducted by qualitative and quantitative analysis. The qualitative analysis used to determine lithology, facies and depositional environment of rocks in wells "A". The quantitative analysis used to determine the distribution of shale which is considered as a major influence on the formation of hydrocarbon bearing zones with low resistivity by using the Thomas-Stieber equation, calculation of porosity associated with the resulting distribution of shale and calculation of water saturation of the wells concerned using the Simandoux and Indonesia equation which is then compared with the Archie equation or core data. Quantitative analysis showed a significant result where at resistivity average of 5.8 ohm.m, the porosity has an average value of 17% and water saturation has an average value of 55.6%.

Biography

Muhammad Rivaldi Anwar Putra is currently pursuing his undergraduate studies in Universitas Gadjah Mada, Indonesia. He is the Member of American Association of Petroleum Geologist – Student Chapter in Universitas Gadjah Mada, Indonesia.

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