



Petrophysical properties of the reservoir unit (1C) for Upper Shale Member from Zubair formation in Luhais field

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Abstract

The research dealt with the reservoir division for Upper Shale Member from Zubair formation in Luhais field, Where it was divided into six units of reservoir and non-reservoir, including the main reservoir unit 1C, which is the subject of research in this study, and studied in terms of thickness and lithology.

The reservoir unit 1C was associated with environmental sediment, which was the environment of the tidal channels, explaining the sedimentation mechanism that helped to form the oil traps and improve the petrophysical characteristics.

The log interpretation was used to determine and calculate the petrophysical characteristics of reservoir unit 1C. The total and effective porosity ratio was calculated with the highest and lowest value, and its porosity was represented by a three-dimensional model representing its distribution in the field. In addition, permeability was calculated through the relationship between porosity and permeability from the pulp where the permeability equation was extracted from the best straight line values containing an unknown value, By compensating for the porosity value of the logs, the permeability could be calculated for the depths of wells that do not contain a core. The permeability of unit 1C is represented by three-dimensional models that are distributed across the field. The oil and water determinations of unit 1C were studied and their existence periods were determined for all wells of the field. The work of three-dimensional models and longitudinal and transverse sections represented the distribution of oil and water polysaccharides in unit 1C. The level of contact of oil - water was determined at a depth of 2753 meters.

Keywords: reservoir, Luhais oil field, Upper shale member, Petrophysical properties.

الخصائص البتروفيزيائية للوحدة المكمنية 1C لعضو السجيل الاعلى لمكمن الزبير في حقل اللحيس

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الخلاصة

تناول البحث التقسيم المكمني لعضو السجيل الاعلى لتكوين الزبير في حقل اللحيس، حيث قسم الى ستة وحدات مكمنية وغير مكمنية، ومنها الوحدة المكمنية الرئيسية 1C وهي موضوع البحث في هذه الدراسة، ودرست من ناحية السماكة والصخارية.

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