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Define the geopressure ramps based on well logs in Morgan and Badri oil Field, Gulf of Suez- Egypt

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The comprehension of the abnormal pore pressure is most becoming increasingly important to the both drilling and completion operations. Actually, the optimum well design requires, understanding of pore pressures, fracture pressure. If the abnormal pressures are not accurately predicted prior to drilling, catastrophic incidents could occur as kicks, well blowouts and well pack off. The high rates of sedimentation in El-Morgan and Badri especially through the Miocene time has created state of disequilibrium compaction that finally lead to the development of overpressure through certain horizons. The paper addresses defining the geopressure horizons in addition to the magnitudes of these abnormal pressures. Using datasets of five wells (three in Badri field and two in El-Morgan field) including well logs data (GR, resistivity and Sonic) and well site reports that including detailed about drilling problems are used to calculate and calibrate the pore pressure. In the paper, Eaton's resistivity and the sonic methods are used for the pore pressure calculation with some modification in the Eaton exponent to be fit in the area of interest. In Eaton method, pore pressure calculated based on the primary generation of the overpressure redirection than the normal compaction trend due to the compaction disequilibrium and the effective stress theory. Edfu and the Saqqara fields are the case studies in the GOS region illustrate how to define the horizons of the geopressure and to improve pore pressure prediction in sedimentary formations.

Biography

A E Radwan is a PhD student and Geologist at Gulf of Suez Petroleum Company which is a joint venture of British Petroleum, Egypt. He has published more than 5 papers in reputed journals. He has participated with SEG, AAPG and SPE and in a lot of conferences in Europe and Egypt. He volunteered some organizations in Egypt related to Science and Education.

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