



Pressure anomalies on the Totea-Vladimir structure (Getic Depression)

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Abstract

The Totea-Vladimir structure belongs to the Getic Depression, which was formed at the beginning of the Lower Miocene in the South Carpathians foredeep. In terms of hydrocarbon accumulations, the Sarmatian and Burdigalian formations are of major trade interest. In this context, several technical problems were encountered at the entry of the drilling bits into the Burdigalian formations due to certain abnormal pressures, although their possible occurrence has been monitored in the geologist's cabin. The method used by the geologist was generically named "the Corrected d_c -exponent", and it pointed out the entry of the drilling bits into the overpressured Burdigalian formations, but it failed to establish the correct value of the recorded pressures; therefore, the necessary measures to avoid the kicks were not taken in advance. Consequently, in the present paper, to correctly establish both the entry into overpressured areas as well as the value of their pressure, it was used the method proposed by Bourgoyne and Young (1974) which, applied to "H" well, it rightly indicated the magnitude of the pressure at the entry of the drilling bit into the Burdigalian formations.

Regarding the causes of the pressure deviations in the Burdigalian formations opened by the "H" well, this paper shows that their presence is closely related to the tectonic events that have controlled the completion of the Totea-Vladimir structure architecture during the Sarmatian period.

Keywords: Totea-Vladimir structure, abnormal pressure, drilling, kick.