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Seismic interpretation and structural identification of Iroko-Mokoko-Abana fields, offshore Cameroon

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The Iroko-Mokoko-Abana fields (hereto referred as IMA) are located in the Rio-Del Rey's basin of the Niger Delta within an area of 24,108 acres (97.56 square kilometers); in which oil and gas accumulations are associated with multiple stacked structural traps formed in response to shale diapiric activity and the formation of shale ridges in a deltaic environment, forming a highly structured and complex hydrocarbon traps environment. The structural style of these fields was identified using 3D seismic volume interpretation, where the seismic was combined with wells data. The structural interpretation of six key seismic cross well sections were firstly done to confirm the structural and sedimentary framework, then three key regional horizons of different depth levels were interpreted with their seismic attributes been extracted, and finally the depth conversion of the interpreted time maps were converted using a 2nd polynomial T-D function derived from well information. The integrated results demonstrate that there are 13 big Syn-sedimentary growth faults related to four shale diapirs of the Akata shale formation; these diapirs and their growth faults have acted as a positive element to produce faulted structures and have divided the IMA into 13 micro-faulted-structural blocks. Many additional potential hydrocarbon accumulations are located within these faulted structural blocks.

Biography

Khalid Altayeb has graduated with a 2nd class (Honors) degree in Geology in 2006 and worked for two years as a part-time Teaching Assistant in the University of Khartoum-Sudan. He had worked for one year as a Geoscience Engineer in China National Logging Corporation (CNLC-Sudan Branch), and then he went to China in 2009 and completed his MSc in Petroleum Geology from the Faculty of Earth Resources of China University of Geosciences, Wuhan, China. Since 2012, he is working as a full-time Research Engineer (Geophysicist and Geologist) in Addax Research Department (ARDP) of Sinopec Exploration and Production research Institute (PEPRIS), Beijing, China.

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