

## Hydrocarbon Potential of the Marginal Fields in Niger Delta – Oza Field, a Case Study

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The Niger Delta is situated in the Gulf of Guinea and has prograded southwestward from Eocene to the present forming various depobelts. This delta complex was developed as a regressive offlap sequences, built across the Anambra basin and the Cross River margins and extended to the Late Cretaceous continental margin. Sediments ranging in age from Paleocene to Recent are present with max sediment thickness of ~ 10 km in the depocenter. Gravity tectonics form the primary deformational process in this region both in onshore and offshore and is manifested through complex structures, including shale diapirs, roll-over anticlines, collapsed growth fault crests, and steeply dipping, closely spaced flank faults. The basin has a well defined “Akata –Agbada Petroleum System” in the Tertiary package. Several discovered marginal fields exist in onland delta area which provides attractive opportunity for development due to presence of multi stacked good quality reservoirs associated growth fault related structures. First onshore commercial discovery in Niger Delta was made in 1956, since then exploration activity has continued aggressively. Several fields were discovered with reserves exceeding 34 billion barrels of oil and 93 trillion cubic feet of gas. Oza field is one such field where oil and gas were discovered in 1959 and was under production till 1982. Three reservoir packages were produced and several others were awaiting assessment of their potentiality. Hardy, the technical partner, has reassessed the hydrocarbon potential of the field based on new 3D Seismic data and data of four wells. It has identified eleven prospective layers with good reservoir properties. The cumulative estimated STOIP of the field is 114 MMBbl. The resource oil potential is 7MMBbl (contingent category), out of which 1 MMBbl has already been produced and is 27 MMBbl (prospective category). The field is in advance stage of development. The field indicates the quality of marginal field in Niger delta.