HYDROCARBON POTENTIAL OF OFFSHORE SEDIMENTARY BASINS IN NORTHWEST SRI LANKA

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Oil and Gas exploration in Sri Lanka has being carried out effectively since late 1950s' in her three sedimentary Basins namely; Mannar, Cauvery and Lanka. However, during the period of 1984 to 2001, there had been no hydrocarbon exploration activities in the country. The exploration activities carried out thus far have acquired a total of over 13,900 line km of 2D seismic data and a total of 2350 km^2 3D seismic data. Seven wells have been drilled in the Cauvery basin and four wells have been drilled in Mannar Basin. In 2011, two potentially economic gas and condensate discoveries; Dorado and Barracuda have been made in the Mannar Basin.

Both Cauvery and Lanka Basins began to form in the Lower Cretaceous and Mannar Basin began to form in the Upper Jurassic. Best potential source rocks exist below the top Upper Cretaceous horizon in Cauvery and Mannar Basins. Good quality clastic reservoirs and potential seal rocks exist below Tertiary horizons. Basement fault blocks, simple anticlinal traps caused by drape and differential compaction of sediments and on-lapping sediments to the basement highs can be identified as potential plays in the Cauvery Basin. Rifted basement highs, multiple synrift plays, Late Albian plays, Cretaceous plays related to volcanic intrusive and extrusives and Tertiary fan and channel plays are the potential plays in the Mannar Basin. It is too early to discuss the hydrocarbon potential in the Lanka basin since its data coverage is extremely low.

Keywords- Mannar, Cauvery, Sri Lanka







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