

Sand Development Pattern Within the Paleocene - Lower Eocene Sediments Along the Shelf Areas of Upper Assam Basin- A Study Incorporating New Sub-Surface Information

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The Upper Assam Basin, which is a part of Assam Arakan Petroliferous Basin, lies in a syntaxial position which is surrounded on three sides by thrust belts. In the south the Naga Thrust Belt has been developed due to convergence between the Indian plate and the West Burma Block and the syntaxial closure has resulted from the Himalayan collision to the north and northeast. The Basin has developed as a foredeep / foreland basin with respect to Naga Thrust Belt advancement. The foredeep phase was deposited under marine/deltaic conditions and the foreland stage mainly under fluvial environments. The present thrust for hydrocarbon exploration by Oil India Limited in Upper Assam Basin is on the Paleocene – Lower Eocene shelf sediments along the Basement High trend, running parallel to the River Brahmaputra of Upper Assam, where numbers of oil/gas bearing structures have been identified. Sandstone, deposited in a fluvio-deltaic environment (Langpar Formation) to marginal marine environment (Lakadong & Narpuh Member of Sylhet Formation) acts as the key reservoir facies and major oil accumulations are found in structural traps. Recent exploratory drilling in the deeper and frontier part of the Basin towards east, southeast and northern bank of the river Brahmaputra away from the *Central Basement High* area has revealed interesting information on the reservoir facies development pattern within the Paleocene-Lower Eocene sediments.