

Structural Styles and its Implication on Petroleum Systems of North Assam Shelf, Upper Assam Basin, India.

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The Upper Assam Basin is a composite foreland basin which is located between the eastern Himalayan foot hills and the Assam - Arakan thrust belt. The basin is terminated to the northeast by the Mishimi Hills block and to the Southwest it is partly disrupted by the Shillong plateau basement uplift.

(A) Paleocene to Middle Eocene- Paleocene to Middle Eocene (!) Petroleum System

The Paleocene to Middle Eocene- Paleocene to Middle Eocene (!) Petroleum System which is oldest and the source rocks of this system is of organic rich carbonaceous shales, coals and thin carbonate units of upper Paleocene – lower Eocene Sylhet Formation and the Upper Paleocene Langpar Formation (Handique and Bharali, 1981). The carbonaceous shale and coal often interbedded with clastic reservoir rocks which are thin to very thin characterized by very high permeability and porosity.

(B) Late Eocene to Oligocene-Oligocene (!) Petroleum System

This petroleum system comprises of thick Kopili shale as major source rock and Sylhet limestone with marginal source rock potential. The lower Kopili is more argillaceous in nature than the upper with a shale content of more than 60% where as in the Sylhet Formation, it decreases to 10-15%.