

Cenozoic Magnetic Polarity Stratigraphy of parts of Assam-Arakan Basin, India.

¹MULLICK, A.K. and ¹MITRA, D. S. ¹Remote Sensing and Geomatics, KDM Institute of Petroleum Exploration, Oil and Natural Gas Corporation Ltd., Dehradun, India.

Magnetostratigraphy, as an alternate non-biostratigraphic dating method is attempted for the first time in one of the oldest hydrocarbon producing Indian basins. The obtained polarity sequences of two studied sections for the Cenozoics are compared with the Geomagnetic Polarity Time-Scale. The inferred age of the top of Sylhet Formation is 36.8ma, whereas the Kopili Formation spans from 36.8 to 34.1ma. The Chrons 17n and 13r of Geomagnetic Polarity Time-Scale, correspond to Sylhet and Kopili Formations respectively, are established by the present study which can be further used as datum for anchoring in any section of Assam- Arakan basin. The age of Laisong Formation is estimated as 34.1 to 28.7ma.

The Barail – Surma Oligocene unconformity is dated for the first time, which spans for 10ma between 26 and 16ma in Hari river section near the basin margin and 3ma between 23 and 20ma along Mariani-Mokokchung road section at the deeper part of the basin. This age dating indicates the diachronous nature of the unconformity. The base of the Tipam sandstone is dated at 10.9ma for both the cases. The base of Girujan Clay in Shari River is at 4.1ma, which is extrapolated at 6ma in Schuppen Belt. Dupitilas and Namsangs are assigned an age of 1.8ma and younger in the Shari River section and Schuppen belt, respectively. In the absence of biostratigraphic and other firm dating in Assam-Arakan basin, the present proposed age datings are definitely new contributions which will be refined and constrained gradually with continued investigation.