

Sedimentology and stratigraphy of the Lambir Formation, Miri, Sarawak, Malaysia

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The main objective of this project is to analyse the Lambir Formation of onshore Sarawak in terms of sequence stratigraphy. This opportunity is provided by the excellent and almost continuous outcrops exposed along the sea cliff at Kampong Bungai to Tanjong Batu area which will be logged as a "type section". The "spot outcrops" or road cuts along the Miri-Bintulu Road will then be correlated to the "type section". The distance between these two subparallel section is some 20 kilometers.

The Miocene Lambir Formation in the Miri area is thought to represent the onset of the present Baram Delta, which is presently exploited for its hydrocarbon in the offshore area. It was deposited in a shallow marine to coastal environment and overlies the open marine shale-dominant Setap Shale Formation.

Initial field work done in the Lambir Formation reveal excellent geological features which resulted from the different processes during the development of the delta. Several highly bioturbated, fossiliferous and calcareous beds have been seen which suggests the maximum marine flooding (MFS) surfaces. These bioturbated horizons overlie laminated to massive mudstones which represents the transgressive system tract (TST). This is in turn overlain by laminated mudstones with thin silty lamina and sand-rich tidal-influenced intervals suggesting deposition during the highstand system tract (HST). This overlying sand-rich intervals of the HST could be correlated with the topsets in seismic sequence stratigraphy. The overall character of the vertical facies changes in the Lambir Formation suggests a type 2 sequences. The above definitions will be discussed in relation to the outcrops.

The following will be done to meet the above objectives:

1. Aerial photographs interpretation to check continuity of the outcrops.
 2. Logging the outcrops for sedimentology/ichnofacies.
 3. Detailed sample collection for biostratigraphy.
 4. Integration of above for sequence stratigraphic analysis of the outcrops.
 5. Correlation of the Lambir Formation with the surrounding area to determine the evolutionary relationship.
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