











## Gross depositional environment (GDE) maps of Ariyalur-Pondicherry and part of Tranquebar sub basin from Oxfordian to Albian of Cauvery Basin, India

fan facies reached up to the CD location along with the supply from the Madnam high cannot be ruled out as the seismic line suggests bimodal sediment supply.

3. The Valanginian period corresponds to global relative sea level fall suggested by presence of low sand % in proximal fan, the mid fan complex accumulated more sand. The fan architecture suggest more widening in comparison to the Berriasian fan architecture in Bhuvanagiri and Pandanallur area while in Komarakshi area fan progradation is observed in foreshore to shore face environmental setup.

4. During the Hauterivian period, the sediment input increases drastically as reflected by the increase in sand percentage. In Barremian, sedimentary system started to evolve with continuous increase in shale content in the shore face to fore shore areas of the period. The widening of the alluvial fan system continues during Barremian also.

5. The Aptian period witnessed the regressive phase which commenced in Barremian and continued till Aptian, but due to differential subsidence the sea level continued to rise reflected by overall increase in shale percentage throughout the basin.

6. The Albian period experienced the widespread marine transgression throughout the basin which has brought most highs or positive areas in the basin under marine realm. The dominant lithology deposited during this period in the basin is mainly shales and siltstone/claystone represented by Sattapadi Shale Formation, which is considered as MFS.

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