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TITULO DE LA PONENCIA

From transitional to deep marine coarse-grained deposits: sedimentary systems during the late Eocene, San Jacinto Fold Belt

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Resumen

PALABRAS CLAVE

Colombian Caribbean, hyperconcentrated to hyperpycnal flows, supercritical to subcritical flows.

CONTENIDO DEL RESUMEN

Coarse-grained clastic successions may be deposited in various environments including alluvial, fluvial, transitional and deep systems. Their detailed characterization is fundamental given the complexity of discerning the sedimentary environment in which they were deposited, as their transport pathways from shallow to deep settings may even be interconnected. The coarse-grained deposits of the upper Eocene in the San Jacinto Fold Belt have been a subject of debate due to the wide range of paleoenvironmental interpretations associated with them. This research presents information from outcrops and well-cores, where through sedimentological



and ichnological characterization, it is possible to understand the paleoenvironmental parameters of sedimentation of the upper Eocene ranging from transitional to deep marine systems.

Metric sequences of poorly sorted, immature, subtly horizontal laminated conglomerates interbedded with rhizolite-bearing clays vary laterally to well-sorted sequences where structures possibly associated with waves and sporadic occurrence of Ophiomorpha reveal sediments flow interactions with marine environments. Poor-maturity coarse-grained deposits reflect short transport from the source (with no fluvial or coastal buffering) via sediment-gravity flows with laminar rheology. Upstream avulsion of the feeding distributary channel provokes the decreasing of fluvial energy which is substituted by wave influence. These deposits suggest mouth-bar-type deltas, which are commonly linked to relatively stable, fluvial distributary in low-energy shallow-water depths basinward of the outlet zone.

Meter-thick beds of sigmoidal- and lens-shape conglomerates; foreset and backset cross-stratified pebbly sandstones; and low-angle, upflow-dipping, undulated-stratified (antidunes) granule- and coarse-grained sandstones filling gently scours (cut-and-fill structures), and layers of centimetric-thick mudstones with horizontal bedding containing abundant benthic foraminifera have been identified. These features provide insights about a coarse-grained mouth-bar migration, which combined with antidunes record suggest supercritical flows deposits in deep marine environments. The aforementioned deposits are overlain by thin beds of highly bioturbated fine- to medium-grained graded sandstones (including Ophiomorpha and Thalassinoides), and mudstones (including Chondrites, Phycosiphon, and Teichichnus) with benthic foraminifera, load casts and flame structures, which are associated with low-density turbidites in a levee system. Successions of meter-scale sharp- and erosional based, finning-upward sequences with basal massive matrix-supported pebble conglomerates (including hard, extrabasinal clasts, rip-up mud clasts, and coastal bioclasts), which evolved