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Co-genetic, cohesive and non-cohesive delta front facies: a case study of flow transformation in a lacustrine setting, Camaquã Basin, southernmost Brazil

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ABSTRACT

Sediment gravity flows comprise gravity-driven underflows with a large concentration of suspended load. Along the downslope transport, flow transformations from laminar to turbulent conditions or *vice-versa* can take place due to several factors, including the incorporation and segregation of clay into, or from the flow. These flow changes may produce hybrid behavior and resulting hybrid event beds. Flow transformation and hybrid events are widely discussed in marine settings, but studies on lacustrine environments are rare. The Ediacaran Western Santa Bárbara Rift represents one stage of the development of the Camaquã Basin and includes both cohesive (debrites) and non-cohesive (turbidites) gravity flow deposits associated with braidplain deltas deposited in shallow lake. A range of cohesive and non-cohesive density flow facies is here discussed in terms of triggering mechanism, genetic processes and related flow transformations. The analysis of aerial images combined with outcrop descriptions allowed the identification and mapping of key

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