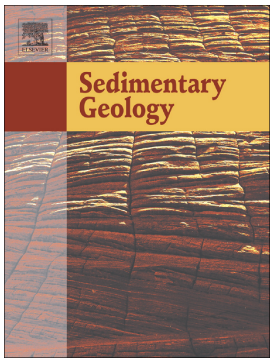

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Lower Triassic deep sea carbonate precipitates from South Tibet, China

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Abstract

Sea-floor carbonate precipitates (SCPs), commonly seen in pre-Cambrian strata, were widely developed during the Permian–Triassic mass extinction and the Early Triassic recovery interval. Most SCPs are found in shallow water facies, with few SCPs reported from deep sea settings. Here, we document Lower Triassic deep sea SCPs from turbidite deposits exposed at the Xiukang section, South Tibet, China. The SCPs only occur within thin-bedded, silty limestones that are embedded in dark grey shale. Parallel–aligned mud cobbles, rounded micritic intraclasts and micro-erosional surfaces are commonly seen in these planar laminated limestones that contain abundant radiolarians and thin-shelled bivalves, indicating deposition in a deep basin via turbidity currents. The deep sea SCPs, which are comprised of bladed calcite crystals, display a weak vertical $\delta^{13}C$ variation with the overlying matrix, and a uniform element distribution and consequently have a homogenous