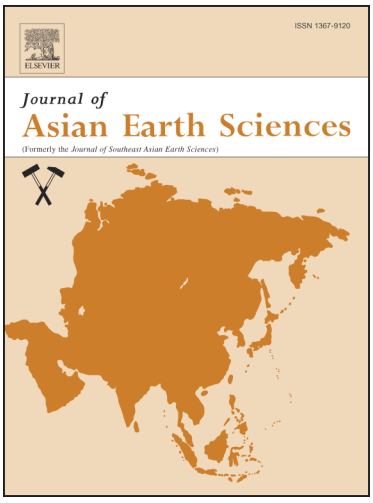

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Classification of gravity-flow deposits and their significance for unconventional petroleum exploration, with a case study from the Triassic Yanchang Formation (southern Ordos Basin, China)

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Abstract

The ongoing exploration for shale oil and gas has focused sedimentological research on the transport and deposition mechanisms of fine-grained sediments, and more specifically on fine-grained mass-flow deposits. It appears, however, that no easily applicable classification scheme for gravity-flow deposits exists, and that such classifications almost exclusively deal with sandy and coarser sediments. Since the lack of a good classification system for fine-grained gravity flow deposits hampers scientific communication and understanding, we propose a classification scheme on the basis of the mud content in combination with the presumed transport mechanism. This results in twelve types of