

First Discovery of the Sandy Debris flow from the Triassic Yanchang Formation, Ordos Basin

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Based on the large amount of the core data, field observations and analysis as well as seismic sequence interpretation, three kinds of sediment-gravity flows (the sandy debris flow, the classic turbidite and the slumps) were identified from the Chang 6 formation of the Triassic Yanchang Formation in the deepwater area at the center of the ancient Ordos basin lake, of which the sandy debris flow is dominant, whereas the classic turbidite is limited in distribution, which indicate previous study about deepwater sedimentation of the Yanchang Formation may overrated the turbidite sedimentation. Further study suggests that the distribution and the reservoir character of the deep water sediment-gravity flows sand bodies such as sandy debris flow are mainly controlled by the slope break. In general, the upper slope is better than the lower slope and the ramp is favorable than steep slope and consequently, sandy debris flow is the best oil prone, classic turbidite A section is moderate oil bearing and the slump is poor.