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Provenance and sediment dispersal of the Triassic Yanchang Formation,

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Abstract

The Ordos Basin in north central China records a transition from marine to non-marine deposition during the late Paleozoic to early Mesozoic. As a result, the northern and southern regions of the Ordos Basin show different tectonic histories and very distinctive sedimentation styles. Two deformation belts, the Qinling orogenic belt to the south and the Liupanshan thrust and fold belt to the west, controlled the structural evolution of the southern Ordos Basin during the early Mesozoic. Paleocurrent analysis, net-sand ratio maps, sandstone modal analysis, and U-Pb detrital zircon geochronology were used to document sediment sources and dispersal patterns of the Triassic Yanchang Formation in the southwest Ordos Basin. Paleocurrent measurements suggest that the sediments were mainly derived from the Liupanshan and the Qinling orogenic belts. Net-sand ratio maps show that several fan delta systems controlled sediment delivery in the

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