



Late Paleozoic sandstone provenances in eastern Central Asian Orogenic Belt and its tectonic implications

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The study area is geographically located in the northern side of Xar Moron River suture belt in the eastern Inner Mongolia and the southern Da Hingg'an Mountains and tectonically in between the Sonidzuoqi-Xilinhot-southern Xi Ujimqin suture belt and Xar Moron River suture belt. It's a key area for the study on the collision process between the northern margin of North China Plate and the blocks to the north. The detrital zircons from Permian sandstones in Hexigten Banner (Keki for short) and Lixi areas in the northern side of Xar Moron River suture belt have been dated by LA-ICP-MS U-Pb method. The dating results suggest that the previous Mid-Permian "Zhesi" Fm. is probably a Late Permian or even Early Triassic sedimentary sequence. The provenance of the Permian sediments in Keki and Linxi areas is mainly from Sonidzuoqi-Xilinhot-southern Xi Ujimqin magma arc in the north, and partly from the northern margin of North China Plate. It is indicated that the collision between the northern margin of North China Plate and the blocks to the north had started in Late Permian when the Linxi Fm. depositing, the Permian sediments' provenance in Linxi and Keki area were mixed from North and South, and the final closure time was about 250Ma.