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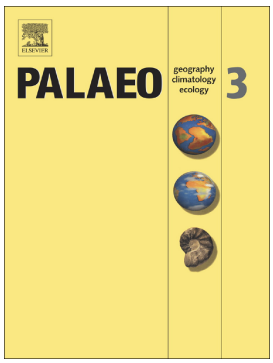

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Anlin Ma, Xiumian Hu, Paul Kapp, Zhong Han, Wen Lai, Marcelle BouDagher-Fadel

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The disappearance of a Late Jurassic remnant sea in the southern Qiangtang Block (Najiangco area): implications for the tectonic uplift of central Tibet

Anlin Ma[a], Xiumian Hu[a,*], Paul Kapp[b], Zhong Han[a], Wen Lai[a], Marcelle BouDagher-Fadel[c]

[a] State Key Laboratory of Mineral Deposit Research, School of Earth Sciences and Engineering, Nanjing University, Nanjing 210023, China.

[b] Department of Geosciences, University of Arizona, 1040 E 4th Street, Tucson, Arizona 85721, USA.

[c] Department of Earth Sciences, University College London, London WC1H 0BT, UK

*Corresponding author: Xiumian Hu (huxm@nju.edu.cn)

Abstract

Located between the Bangong-Nujiang suture zone and the Qiangtang Block in central Tibet, the Najiangco area (~5 km to the north of Nima-Selingco) contains an Upper Jurassic-Lower Cretaceous sedimentary succession deposited during a period of marine regression. The youngest marine sedimentary unit in the Najiangco area is the Upper Jurassic Shamuluo Formation, which consists of sandstone, limestone, siltstone, and shale. Sedimentary facies analysis shows that tidal flat and subtidal lagoonal facies characterized the northern margin of the basin, while delta front and prodelta facies dominated the middle part, and carbonate shoal and patch reef facies prevailed along the southern margin. Provenance analysis, including petrographic modal analysis of sandstones and U-Pb dating of detrital zircons, shows that a recycled orogen in the central Qiangtang to the north of Najiangco area was the source of the sandstones in the Shamuluo Formation. Biostratigraphy and U-Pb zircon dating of a porphyritic granitoid dike (151 ± 2 Ma) indicate that the Shamuluo Formation was deposited during the Late Jurassic (Oxfordian to Kimmeridgian). During Middle Jurassic time, the southern Qiangtang Basin was dominated by shallow-marine environments. Later, during the Late Jurassic (Oxfordian to Kimmeridgian), the shallow-marine facies retreated to the southern margin of the basin. Combined with regional

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