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NEW LATE JURASSIC PALEOMAGNETIC RESULTS FROM SHARILYN FORMATION, SOUTHERN MONGOLIA, AMURIA BLOCK, AND THEIR IMPLICATIONS FOR THE TECTONIC EVOLUTION OF THE MONGOL–OKHOTSK SUTURE

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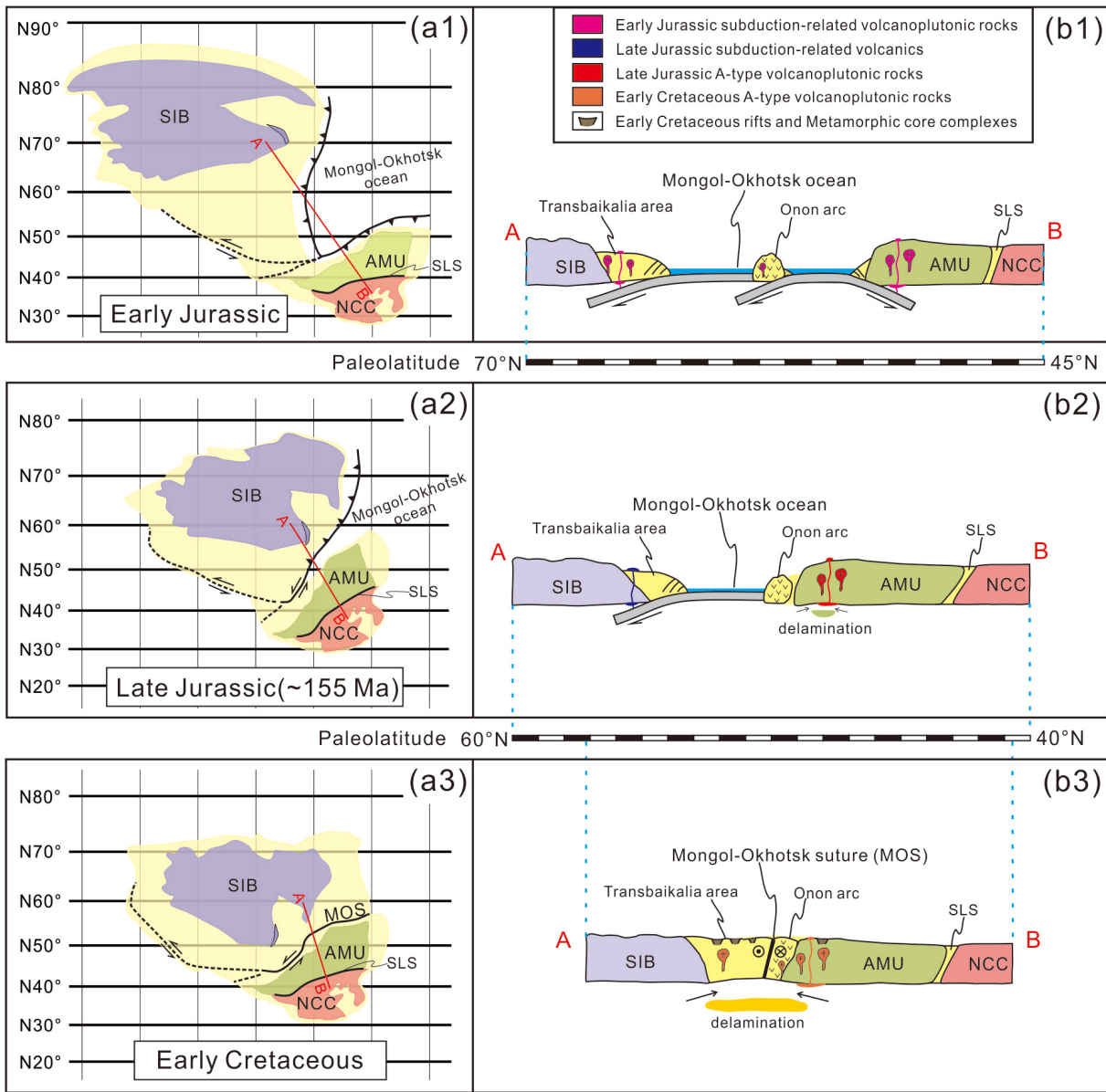
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The Amuria block occupies the eastern part of the Central Asian Orogenic Belt between the Siberia craton and the North China block (NCB) and bears important information to understand the evolution of the Mongol–Okhotsk suture and the amalgamation of East Asia. However, the paleomagnetic database of Amuria remains very poor. In this study, a total of 124 paleomagnetic core samples of 16 sites were collected from the well-dated (~155 Ma) red sandstones of Sharilyn Formation in the Har Hotol area of East Gobi basin,

southern Amuria, Mongolia. All samples were subjected to stepwise thermal demagnetization. After a recent geomagnetic field viscous component removed, a stable high temperature component (HTC) was isolated. The HTC directs northeast down and southwest up after tilt correction. It passed a fold test and a reversal test at 95 % confidence, suggesting a primary origin. The first precise age-constrained Late Jurassic (~155 Ma) pole of Amuria is obtained by averaging all site-level virtual geomagnetic poles (VGPs). It is consistent



A new tectonic model for Mongol-Okhotsk ocean from Early Jurassic to Early Cretaceous.

with the coeval pole from the volcanic rocks of the Tiaojishan Formation in northern margin of the NCB, but differs significantly from the coeval poles of Siberia. Our paleomagnetic analyses support the geological model that the Amuria and NCB had merged into a tectonically coherent unit by Late Permian, but there has been ~1600-km latitudinal plate convergence taking

place between Siberia and Amuria after ~155 Ma. The paleomagnetic data together with the geological and tomographic evidence summarize a new evolution model (Figure), indicating that the northward subduction still existed at ~155 Ma in the Mongol-Okhotsk ocean. The convergence probably terminated during the Early Cretaceous.