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Alan T. Baxter, Jonathan C. Aitchison, Jason R. Ali, Jacky Sik-Lap Chan, Gavin Heung Ngai Chan

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Detrital chrome spinel evidence for a Neotethyan intra-oceanic island arc collision with India in the Paleocene

ALAN T. BAXTER^{1,2*}, JONATHAN C. AITCHISON³, JASON R. ALI⁴, JACKY SIK-LAP CHAN⁴ AND GAVIN HEUNG NGAI CHAN⁴

¹ *SCHOOL OF ENVIRONMENTAL AND RURAL SCIENCE, THE UNIVERSITY OF NEW ENGLAND, NSW 2351, ARMIDALE, AUSTRALIA*

² *DEPARTMENT OF EARTH AND PLANETARY SCIENCES, 3450 RUE UNIVERSITY, MCGILL UNIVERSITY, MONTREAL, QUEBEC, CANADA*

³ *SCHOOL OF GEOGRAPHY, PLANNING AND ENVIRONMENTAL MANAGEMENT, THE UNIVERSITY OF QUEENSLAND, QLD 4072, BRISBANE, AUSTRALIA*

⁴ *DEPARTMENT OF EARTH SCIENCES, THE UNIVERSITY OF HONG KONG, POKFULAM ROAD, HONG KONG SAR, CHINA*

* = CORRESPONDING AUTHOR (ALANTBAXTER@GMAIL.COM)

Abstract

Models that support a single collision scenario for India and Eurasia are incompatible with the evidence that an intra-oceanic island arc (IOIA) existed within the Neotethyan Ocean. Understanding the spatial and temporal extent of any IOIA is crucial for India-Eurasia collision studies as the entire ocean, including any intra-oceanic features, must have been consumed or emplaced prior to continental collision. Here, we review what is known about the Neotethyan IOIA and report evidence from sedimentary successions in NW India and southern Tibet to constrain when and where it was emplaced. We use detrital mineral geochemistry and supporting provenance

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