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### U-Pb zircon data from mid-Neoproterozoic strata of the Steilrandberg, northern Namibia: Establishing a “barcode” for the northern foreland of the Damara Belt

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Well exposed Neoproterozoic strata in the Steilrandburg of northern Namibia offer a window into basin evolution at ca. 800 Ma (rifting of Rodinia), prior to the amalgamation of Gondwana. New detrital U-Pb analyses of syn-rift and drift(?) clastic deposits (sub-Nosib Fm (?), Nosib Fm, Ombombo Subgroup(?)) provide a “barcode” of age peaks to begin characterizing provenance and refine maximum depositional ages of these units, which record the developing Congo margin. The three samples share several age peaks, yet in different proportions (Figure 1). Pronounced age peaks in the sub-Nosib quartzite and the Nosib Fm samples include ca. 1360, 1750, 1880, and 1975 Ma. The Nosib-Ombombo(?) sample has larger peaks at ca. 1330, 1550, and 1760 Ma. Collectively, the Northern Foreland provenance contrasts with that of correlative units in the Northern and Central zones of the Damara Orogen, where only two age peaks (ca. 1030 Ma and 2040 Ma) have been identified [1]; and Kaoko belt strata, where new results show dominantly ca. 1860 and 2050 Ma peaks.

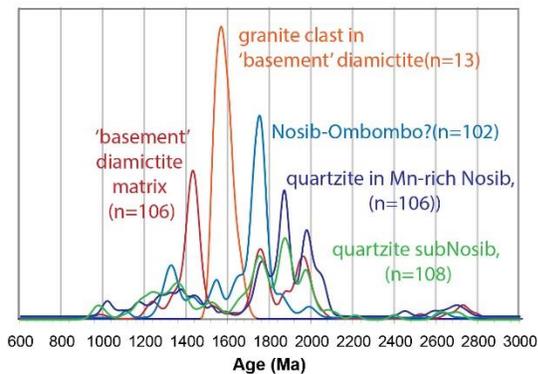


Figure 1: Probability density diagram showing age peaks from ‘Paleoproterozoic diamictite’, and younger syn-rift to drift (?) strata of the Steilrandburg, northern Namibia.

Additionally, U-Pb analyses on a diamictite in direct contact with the Nosib Fm (Figure 2) indicates a 1565 Ma granitic source (igneous zircon from granite cobble), and a depositional age of  $\leq 1240$  Ma, and possibly  $< 950$  Ma ( $n=1$ ) (detrital zircons in matrix). The matrix also includes larger age peaks at 1430, 1760, and 1960 Ma. The 1430 Ma age peak in the diamictite is not well developed in the other units, nor is the 1565 Ma peak, making this zircon pattern distinctive from the others. The diamictite is mapped as Paleoproterozoic basement, but could be as young as Neoproterozoic.

Figure 2: Contact (brunton/red line) between the ‘diamictite basement’ (left) and the Mn-rich Nosib Fm (right).



*References:*

- [1] Foster, D.(2015) Gondwana Research, 28:179-190

