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The Paleoproterozoic Vishnu basin in southwestern Laurentia:
Implications for supercontinent reconstructions, crustal growth,
and the origin of the Mojave crustal province

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ABSTRACT

The formation of the Mojave crustal province has been a persistent enigma in models of the Proterozoic tectonic history of southwestern Laurentia. It is composed of similarly-aged 1.8-1.7 Ga rocks as the adjacent Yavapai province, yet shows evidence of much older (>2.2 Ga) lithospheric components in all isotopic systems. We present >700 new U-Pb analyses and >350 new Lu-Hf analyses of zircon from the oldest metasedimentary and plutonic rocks of the Mojave province to better understand its origin and evolution. Six metasedimentary rocks have detrital zircon age populations dominated by ~1.87 and 2.4-2.7 Ga grains. This age distribution is like the Vishnu Schist in Grand Canyon and we suggest that together they comprise a regional

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