Evidence of rift-related Late Paleoproterozoic Bimodal Volcanism in the eastern part of the Son Valley, Central India.

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Bimodal volcanic rocks consists of ~900 m thick intra-basinal felsic rocks and 3-11 m thick mafic bodies that intrude the Kajrahat Limestone and Porcellanite Formation of Semri Group. The petrochemistry on these rocks are lacking. They are hypersthene bearing dolerites show sub-alkaline nature and affinity towards basaltic andesite (52-56% SiO_2). They contain moderate incompatible trace elemental contents akin to intra-plate continental rift related basalts. Moreover, high Ba, Th, U together with the low Nb, Ta and Ti values suggest crustal contamination. Chondrite normalized REE show affinity towards OIB and E-MORB, also supported by bimodal volcanism. The low Zr/Nb, Y/Nb, Ti/Zr and high Zr/Y values reflect their enriched mantle source.

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