The mafic dykes of Rewa basin occur along the Son-Narmada lineament between the Deccan volcanic rocks of western India and the mafic dykes and ultramafic intrusives of the Gondwana coalfields in eastern India. While the mafic flows and dykes of Deccan province were emplaced around 64 Ma ago, the ultramafic intrusives of eastern Gondwana have been dated at 115 Ma.

Palaeomagnetic and rock magnetic investigations have been carried on 45 magnetic compass oriented samples collected from flows (9 sites) and dykes (5 sites) located around Shahdol, Chirimiri, Amarkantak and Umaria in Rewa Basin. The collected 45 samples have been cored and shaped into 438 standard specimens in the laboratory. All the 438 specimens were subjected to magnetic susceptibility, NRM intensity and Q-ratio measurements. Rock magnetic studies such as IRM, L-F test along with k-T curves have been investigated on representative specimens to understand the magnetic mineralogy and their domain states. A very detailed protocol comprising of AF and thermal demagnetizations on 250 specimens yielded a very stable and statistically significant mean ChRM direction as $D=337^\circ$, $I= - 43.44^\circ$, ($\alpha_{95}=14.05$, $k=9.67$; $N=14$ sites) and the corresponding VGP was computed as 36.94°N, 73.48°W. As the obtained VGP was found similar to that of the Deccan Traps Pole (36.9°N/78.7°W), the studied flows and dykes ages are assigned to that of the Deccan traps (65 Ma) relating them genetically to the Deccan magmatism. Rock magnetic techniques have unambiguously identified titanomagnetite, which is common in the Deccan traps samples, as the major magnetic mineral in the studied samples.