

## **Clues to find out past lithospheric activities from lower crustal contaminated dikes of Deccan Volcanic Province, Ranale, India**

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Xenoliths in volcanic rocks can provide important information on basement source activity. Investigation compares the geochemistry and petrographical data of basic and crustal xenolith dikes from Deccan Trap, India. I have studied a total of four basalt dikes from Ranale area, Dist. Nandurbar, India. Out of four dikes one dike is carrying abundant of lower crustal xenoliths with different lithological varieties like gneisses, quartzite, granite, mylonite, felsic granulite and carbonate rocks. All xenoliths are fragmented and infiltrated by basaltic melt. Whole rock geochemistry of xenoliths contamination supports a concomitant decrease in concentration of Sr with Zr. Incidentally the Sr values are 0.7044 to 0.7337 and Nd values are 0.5115 to 0.5128. When plotted for crustal xenolith shows  $87\text{Sr} / 86\text{Sr}$  value extremely high value exceeding field for Bushy formation. Higher concentration in Sr shows Ranale dike further support the interaction of magma. Composition of  $\text{SiO}_2$  for all dykes varies from 48 to 72 wt%. Majority of dyke samples are observed to fall in basaltic field with a sample (RAN1) falling in basalt andesitic field when plotted in Total Alkali vs. Silica (TAS) diagram. Ultramafic (UM) sample when plotted on TAS diagram is observed to plot in dacite field.