

GEOCHEMICAL CHARACTERISTICS OF AMGAON MAFIC ROCKS, WESTERN BASTAR CRATON, CENTRAL INDIA: EMPHASIS ON THEIR PALAEOTECTONIC EVOLUTION.

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Abstract

The Amgaon mafic rocks occur as restite blocks within Amgaon gneissic complex which are metamorphosed upto amphibolite facies. Low $\text{Na}_2\text{O}+\text{K}_2\text{O}$ (<4%), moderate concentration of SiO_2 , low differentiation index ($\text{DI}<30$) and solidification index (SI; avg. 32.18) are the characteristics of basic nature of these rocks. Na_2O , MgO and $\text{CaO}/\text{Al}_2\text{O}_3$ values are similar to MORB (2.68%, 7.6% and 0.74% respectively) values. They show low-K tholeiitic characteristics which have evolved under ocean related tectonic environment close to mid oceanic ridge (MOR) and Fe-rich Archean mantle may be the source of these rocks.

Keywords: Mafic rocks, Tectonic Setting, Amgaon Group, Western Bastar Craton.