

## **Mesozoic mafic-ultramafic-ijolite-carbonatite complexes of Assam-Meghalaya Plateau, NE India**

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The Assam-Meghalaya Plateau in NE India is considered to be an uplifted horst-like feature bordered to the south by the deep Dauki fault and to the north by the Brahmaputra trough zones trending E-W to ENE-WSW. This Plateau forming a north-eastern prolongation of the Indian Shield, occurs as a pivot to the west of the Naga Hills and south of the eastern end of the Himalaya. Four well exposed complexes of mafic-ultramafic-ijolite-carbonatite associations, viz. Sung Valley ( $156\pm 16$  Ma), Samchampi (105 Ma), Jasra and Swangkri ( $107\pm 3$  Ma), are emplaced. All these complexes have different sets of emplacement environment, such as Sung Valley complex intrudes Proterozoic metasediments, Swangkri complex intrudes Archaean gneisses, Jasra complex intrudes Shillong Group of rocks, and Samchampi complex intrudes Archaean gneisses. Carbonatites are mainly sövitic in nature, whereas, ijolites are essentially composed of nepheline and aegirine/aegirine augite. Available geochemical data of the Sung Valley carbonatites suggests that these carbonatites are derived either from a parental magma generated by partial melting of the sub-continental lithosphere or from a melilitic magma. Other complexes have very limited geochemical data but their field relationships, associated rock units, and presence of typical textures and mineralogy suggest its origin by the liquid immiscibility of a melilitic or nephelinitic magma. Presence of mantle plume beneath the eastern India can not be neglected. This is further corroborated by recent isotopic systematics on the Sung Valley carbonatites.