

POST-DECCAN TRAP NEPHELINITIC AND CARBONATITIC ACTIVITY (EFFUSIVE AND INTRUSIVE) IN TAMIL NADU, INDIA

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The recent (1996-99) minor eruptions of tephritic lava tubes and plugs, and occurrences of Late Cenozoic carbonatitic tuffs suggest that the Deccan Trap activity is still alive in certain parts of Tamilnadu in southern India. Many occurrences of Late Cenozoic carbonatitic lavas (fissure type), trachyte, tephrite, syenite are reported from this region. The carbonatitic tuffs, fine-grained carbonatitic dykes containing xenoliths (ribbons) of charnockitic rocks, very coarse grained miarolytic carbonatite intrusives, fenites, pegmatites, fluidized beds (mostly kaolinized and carbonatized) of host rocks are encountered in the region. The late Cenozoic carbonatitic tuffs are associated with the crystalline limestone formations of Tamilnadu. Their occurrences are restricted to narrow arcuate trough-like faults related to tensional deformation. The charnockites appear to be wedged off and their outcrops are set back by the injection of carbonatitic magma which enclose xenoliths of the charnockitic rocks. Within the same shear zone but outside the carbonatitic aureole, molybdenite and graphite mineralization is seen in association with crystalline limestones and silicified rocks. Perhaps during the waning stages of the Deccan Trap basaltic magmatism, that covered more than 750,000 sq.km of the Peninsular region of India, the nephelinitic carbonatite lava erupted and spread over several tens of square kilometers of the area in southern parts of Tamilnadu State.