

## Lamproites from the Raniganj Coalfield

We extract below the first detailed mineralogy of the dyke rocks intruding the coal seams from Giridih lying north of the Raniganj and Jharia Basin carried out by Roger Mitchell, Canada and Fareeduddin of the Geological Survey of India

“Two mineralogically distinct lamproites occurring as dykes in the Raniganj coalfield of eastern India are described in terms of a mineralogical-genetic classification as: (1) peralkaline-olivine-ilmenite-phlogopite-K-feldspar lamproite (var. Damodar); and (2) peralkaline pseudoleucite-phlogopite-amphibole-K-feldspar lamproite (var. Damodar). Composition and paragenetic data are provided for major accessory and trace minerals. Minerals common to both rocks include: chlorite-pseudomorphed phenocryst olivine, phenocrystal Ti-rich Al-poor phlogopite and tetraferriphlogopite, groundmass potassic amphiboles, Sr-rich apatite and monazite-(Ce), late stage Na-poor K-feldspar and quartz. The rocks differ in terms of the character of the amphiboles (Ti-potassian arfvedsonite vs. K-richterite-K-magnesioarfvedsonite-Karfvedsonite solid solution), spinel compositions (qandilite-chromite-magnetite vs. chromite-ulvospinel-magnetite), the presence or absence of pseudoleucite, micro-pheno-crystal magnesian ilmenite, diopside, titanian aegirine, lorenzenite, an unnamed Ti-silicate, an unnamed Mg-Zr silicate, bazirite, rutile, dolomite and norsethite. The rocks are considered to be members of a spectrum of modally diverse peralkaline rocks, formed from a common parental magma produced by the partial melting of the ancient metasomatized lithospheric mantle of the northern Singhbhum craton. None of the rocks can be considered as aillikites, minettes, orangeites or kimberlites.”

The study forms an important contribution to our knowledge of the dyke rocks of India especially those intruding the coal seams of the Raniganj coalfield. (*Mineralogical Magazine*, v.73(3), p.457). – BPR