

Gold-graphite association in granulite terrains — Implications for ore genesis

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ABSTRACT

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The gold occurrences of Sri Lanka are closely associated with the graphite deposits and are genetically related. The quartz-graphite margins of the vein graphite are shown to be metal accumulating. The movement of CO₂-rich fluids, formation of graphite and the concentration of Au are closely related.

Whereas the CO₂-rich fluids may well be the “carbon-carriers” in the formation of graphite, the original source of CO₂ is still debated. Hydrothermal solutions, when in contact with the graphite tend to activate the carbon, thereby producing sites for the enrichment of gold. The genetic link between the graphite veins and gold deposition has useful implications in the investigation of ore genesis in high-grade metamorphic terrains and the exploration for gold.