

## THE STRUCTURAL GEOLOGY OF SOME GRAPHITE DEPOSITS OF SRI LANKA

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Sri Lanka presently mines vein graphite of very high purity from three deep mines at Bogala, Kahatagaha and Kolongaha and also from a few small scale mines. There are two other modes of graphite occurrences in the Island such as lenses, vugs, pods in foliation and disseminated flakes in the country rocks which are not of economic significance. The graphite deposits are largely found in the southwest sector of the island.

The present study is based on detailed studies carried out in different graphite bearing areas of the island. The areas include deep mines, shallow mines and some old workings. The study reveals that the formation of economic deposits are strongly tectonically controlled. The graphite deposits occur in anticlines and domes and their fold characteristics are upright, horizontal or gently plunging close, to tightly folded. The deposits occur only in the axial region of the folds at isolated locations depending on the complexity of deformation. The graphite veins are fracture controlled via the local joint systems. These joint systems are related to the fold system and shear (tension) joint systems developed across the fold axis and are the most favourable sites for graphite mineralization. The veins run vertically or steeply to a depth ranging from 400 to 800 m. Graphite remobilization and concentration depend on the tectonic forces and the low-pressure zones.