FORMATION OF GRAPHITE BY HYDROTHERMAL ACTIVITY IN DEEP CRUSTAL ENVIRONMENT A CASE STUDY FROM SRI LANKA

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The geology, petrology and the chemistry of the graphite bearing highgrade metamorphic rocks of Sri Lanka were studied.

Replacement mineral textures and unusual high content of some chemical elements in these rocks indicated a hydrothermal activity during the latter part of the metamorphic process.

The geology and rock association suggested that the hydrothermal fluids have derived by partial fusion of the basement rocks.

It is suggested that the H_2, Fe^{+2}, and Ti^{+2} in the late migmatitic fluids had reduced the CO_2 formed by the silication of the marble to form graphite, magnetite and rutile.