

FP4.

GEOLOGICAL AND MICROSTRUCTURAL STUDY OF VEIN GRAPHITE IN SRI LANKA.

N.W.B. BALASOORIYA, P.W.S.K. BANDARANAYAKE*, H. M. N. BANDARA**,
K. DAHANYAKE AND M.A.K.L. DISSANAYAKE*.

*Department of Geology, *Department of Physics and **Department of Chemistry,
Faculty of Science, University of Peradeniya.*

Graphite deposits in nature occur mainly as amorphous, flake or vein graphite. Sri Lanka has reputation for its high quality vein graphite. Currently, there are only two graphite mines operating at Bogala and Kahatagaha-Kolongaha areas. This study was carried out using samples collected from Bogala and Kahatagaha mines.

The vein graphite (high crystalline) is formed in fissures, fractures or cavities traversing igneous or metamorphic rocks such as charnockite, garnet-biotite gneiss, marble, quartzite and calc gneiss. However marble is very rare in Kahatagaha graphite mine. In the Kahatagaha mine, veins are usually less than a meter in thickness and those of Bogala mines range for a few centimeters to several meters. Mineralisation is concentrated in the zones of fractures of the overlying rocks. Alterations occur within some minerals formed in the vicinity of the wall rock. Some veins in Bogala and Kahatagaha mines indicated several episodes of mineralisation.

The gangue minerals observed in graphite veins of both mines are quartz, feldspar, chalcopyrite, pyrite whereas secondary minerals are chlorite, calcite etc.

Microstructures associated with different types of graphite were examined using JOEL JSM-T 220A Scanning Electron Microscope (SEM). The SEM studies showed that graphite occurs as aggregates of micro fibrous and micro sheets.