

**D-19 : SOME FIELD OBSERVATIONS ON CHARNOCKITES AND  
THEIR IMPLICATION ON CHARNOCKITE GENESIS**

*E P W Peiris; Geological Survey Department, Colombo.*

Some field observations on charnockites in the Walawe River Basin are described. Charnockites are always associated with marbles. Homogeneous, massive, dark bluish green coloured charnockite exists in contact with marble bodies, while the charnockite grades into Charnockitic looking (may or may not contain hypersthene) rock further away from the contacts. Charnockitic appearance (presence of bluish, greasy quartz) fades gradually into normal gneisses or granulites. Field observations show clearly that charnockite has formed later than the hosting lithologies where marble and a rock with suitable composition (to form charnockite) come in contact.

This phenomenon could very well be observed in outcrop to handspecimen scales in the field. Experimental studies undertaken on charnockites had indicated CO<sub>2</sub> bubbling resulted deficiency in water fugacity for clino/ ortho pyroxenes to form. Studies in the Walawe River Basin indicate that the source of CO<sub>2</sub> was the associated marble in the rock pile.