

SECONDARY STRUCTURES AND VARIABLE COMPOSITIONAL
ZONES OF THE EPPAWELA PHOSPHATE DEPOSIT

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The tropical weathering of the Eppawela phosphate deposit has given rise to a leached area extending to depths of 20 to 100 metres. In the leached area various compositional zones can be observed and they could easily be distinguished in the field on the basis of texture and structure. Close microscopic observations of these zones lead to the recognition of at least four types of secondary structures which have developed on the parent apatite marble rock: (i) Box-work lateritic, (ii) vermicular lateritic, (iii) concentric, (iv) conglomeratic.

In Box-work lateritic structure, the residual material is poor in P_2O_5 . Some of the P_2O_5 occurs as neo-formation in spheroids. In the vermicular structure, the residual parts are rich in P_2O_5 and poor in iron. The concentric structure shows characteristic microbial features and neo-formations of apatite are associated with them. The conglomeratic type is the structure which gives high P_2O_5 contents with appreciable amounts of iron.