

APATITE OCCURRENCE AT EPPAWALA: INDICATIONS FOR E-W MAJOR EXTENSION

Dinesh Charles¹, S.A.S. Samaranayake² and Nalin de Silva³

¹*National Institute of Fundamental Studies, Hantane Road, Kandy.*

²*Uva Wellassa University, Badulla.*

³*Geological Survey and Mines Bureau, 569, Epitamulla Rd. Pitakotte.
nalinsilva@hotmail.com*

Previous geological studies and core drilling of the apatite deposit at Eppawala have characterized a north/south extension, that forms a series of ridges with bulk exposures of carbonatite rocks associated with primary apatite crystals and its secondary enrichment. The deposit extends from south of Eppawala town towards the east of Thuruwila Wewa across Jaya Ganga with sporadic outcrops. Magnetic and resistivity studies reveal a possible E/W extension of the Eppawala deposit that would enhance the available reserves of the deposit. Magnetic measurements, based on the readily noticeable magnetite occurring as gangue mineral within the apatite exposures indicate that the deposit extends in an E/W direction though exposures are few. Sporadic occurrences of an apatite-rich carbonatite-looking layer at depths as gleaned from agricultural well cuttings located far from the main N/S axis is indicative of lateral extension of the deposit. Resistivity measurements reveal the presence of hard formations at localities where high magnetic anomalies were observed, with similar magnetic signatures over the known apatite occurrences, once source and sensor depth variations were compensated appropriately. The proposed model for the Eppawala apatite deposit suggests that although the exposures along N/S direction coincide with a pre-existing weak zone, the deposit seem to extend in an E/W direction at depth. Few core drill holes placed on magnetic and resistivity anomalies could validate this proposed model.

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