



A COMPARATIVE STUDY OF THE DISTRIBUTION OF  
THE MAJOR CONSTITUENTS PRESENT IN THE EPPAWALA  
APATITE DEPOSIT AND THE SURROUNDING COUNTRY  
ROCK AND WATER

A Dissertation submitted by

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## INTRODUCTION

### History and Location

Eppawala is situated approximately 120 miles away from Colombo between Kekirawa and Talawa in the Anuradhapura District in the North Central Province of Sri Lanka (Latitude  $8^{\circ} 24'E$  and  $8^{\circ} 10'N$  Longitude).

In 1971 whilst engaged in the Geological Mapping of the Anuradhapura District, officers of the Geological Survey Department of Sri Lanka discovered the Eppawala Carbonatite deposit.

After extensive Geological and Geochemical investigations the Geological Survey Department of Sri Lanka has established six elevated hillocks with the economically important mineral apatite making the capping material in the "Leached Zone".

After series of investigations the Geological Survey Department has concluded that this "Leached Apatite Ore" lying over fresh carbonatite is rich in phosphorus (ranging from 31.10 - 37.30% as  $P_2O_5$ ) with low availability to the plants (only 2 - 3%  $P_2O_5$ ) is soluble in 2% citric acid solution) -\*1.

### General Geology and Mineralogy

The Geological map of the area shows three broad lithological zones viz.

- (1) A prominent hornblende/biotite gneiss zone;
- (2) Granites and granite gneisses with or without feldspar;
- (3) Charnokites and their variants with minor quartzites together with granites and granitic gneisses;

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In this dissertation \* followed by the integer denotes the references on page 33.