

# CHAPTER V

SUMMARY AND  
CONCLUSION

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New ideas have been proposed in recent years on the origin of anorthosites. Ashwal (1988) attempts a simple unified theory for the formation of anorthosites. He discusses three types of myths and proposes a simple unified theory that the anorthosite cumulates of plagioclase feldspars formed from the mantle derived basaltic magmas and this hypothesis can be applied to all anorthositic types both terrestrial and extraterrestrial. Morrison et al (1988) observes that all the Archaean terrain anorthosites are characterized by the presence of equivalent plagioclase megacrysts of homogeneous anorthite content typically An. The large scale cumulates suggests the presence of large periodic replenished magma chamber. Phinney et al (1988) has given a brief outline on the regional setting of anorthosites and petrogenetically related basalts.

Leelanandam (1988) while describing the anorthosites of South India observes that the metamorphic discontinuity across the boundary between the Eastern ghat and the adjoining craton, suggest a thrusting of the eastern terrain over the western terrain.

Models invoking collision tectonics with attendant anomalous crustal thickening of the proterozoic mobile belt and with high thermal gradients is attributed by Leelanandam for anorthosite origin.

The above views are discussed in Chapter I and the location and review of early literature by Newbold(1843), Middlemiss (1896), Lacroix (1899), Iyer (1932), Iyengar (1949) , Krishnan (1943), Nehru (1955), Subramaniam (1955 and 1956), Naidu (1960 and 1963) and recent studies by Ramadurai et al (1975), Thimmichetty (1975), Janardhan (1975), Selvan (1986), Sabanayagam (1987), Mallik (1989) are presented.

In Chapter II field observations by early workers recent workers and by the author are given. A brief discussion on the structural pattern in high grade terrain is presented. The author is of the opinion that the structural details in the Sittampundi complex should be carried out in detail. Some important field observations by the author are,

1. Some of the chromite bands are not conformable with anorthosite bands.
2. Evidence for tectonic reworking, multi-deformation and poly metamorphism are present.
3. PGE have been remobilized in chromite layers.

In Chapter III the study on chromites is presented in detail. The presence of economically useful PGE associated with chromitite layers have been identified by Mallik(1989). The sapphrine bearing rocks occur as thin layers between chromite layers and anorthosites. The author is of the opinion that the chromite bands are related to the ultramafic rocks occurring immediately to the south of the nose of the anorthosite band.

In Chapter IV, a discussion is made on the origin of anorthosites and related rocks.

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