

## **Petrogenesis of the False Bay Dyke swarm**

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### **ABSTRACT**

The False Bay Dyke swarm is the southern NW-SE trending end member of the Cretaceous dolerite dyke intrusions on the western African margin associated with rifting of Gondwana and opening of the Atlantic Ocean. This southern dyke swarm has been associated with a low-flux magma volume compared to its northern high-flux counterpart: the Henties Bay-Outjo dike swarm in Namibia. The contrast in basaltic magma types and magma flux between north and south has been related to different tectonic settings (i.e. magma sources) along the current coast line during Cretaceous rifting. Further, the False Bay Dyke swarm is characterised by olivine-tholeiites with quite extreme differentiation to ferro-tholeiites within a monogenetic magma system.

This project includes field mapping, sampling and geochemical analysis of the dolerite dykes across the Cape Peninsula and aims to provide geochemical data (selected trace elements, radiogenic and stable isotopes) to further characterize the False Bay dyke swarm magmas and their petrogenesis, with developing the finer detail of the differentiation mechanisms.