

Paleo-Stress orientation and brief sedimentology of the lower Ecca group, Karoo Basin, South Africa.

Miles van Eeden

University of the Western Cape, South Africa, m.vaneeden@webmail.co.za

ABSTRACT

The Karoo basin has undergone multiple episodes of deformation and has lots of controversy surrounding its structural evolution. The sedimentary rocks which make up the lower Ecca have been deposited under deep to shallow marine conditions progressively and can be deduced from sedimentary structures or absence thereof. Tectonism took place between 278Ma and 230Ma in the Cape Fold Belt which was during the deposition of the Karoo sediments and is responsible for the structures formed in the deformed SW Karoo basin. Using stereographic projections, I was able to determine paleo-stress orientations and deduce structural trends which can be extrapolated to regional trends. Evidence of residual hydrocarbons exist in the lower Ecca sandstones and can be associated with the intense tectonic history in this particular region.

Key words: Karoo Basin, Paleo-stress orientation