

## Source Rock Potential of the Lower Ecca Group, Tanqua Karoo Basin

J. C. Ferreira<sup>1</sup>, A. Akinlua<sup>2</sup>

1. University of the Western Cape, South Africa, 2502696@uwc.ac.za

2. University of the Western Cape, South Africa, aakinlua@uwc.ac.za

### ABSTRACT

The increase in demand for hydrocarbons is motivating a new period in exploration for hydrocarbon resources in previously overlooked areas. This is supported by renewed exploration including feasibility studies, which are currently being conducted within the Karoo Basins of South Africa. The Lower Ecca Group of the Tanqua Karoo Basin is one of the many areas that are currently being re-evaluated and it consists of the Prince Albert Formation which was deposited under deep to shallow marine conditions, which is overlaid by the Whitehill Formation carbonaceous shale that was deposited under anoxic bottom conditions.

The purpose of the research is to assess source characteristics of organic matter of the Prince Albert and Whitehill Formations of the Lower Ecca Group within the Tanqua Karoo Basin. Organic matter will be assessed on the basis of quantity, quality and maturity of the organic matter by means of Rock-Eval pyrolysis and organic petrography. Rock-Eval pyrolytic analyses will be undertaken, in addition vitrinite reflectance and maceral composition will be determined. Two very important techniques which can be applied for the rapid assessment of maturation and source characteristics of organic matter, which in turn is crucial in determining source-rock potential.

**Key words:** Tanqua Karoo Basin, Lower Ecca Group, Rock-Eval pyrolysis, organic petrography.