

The distribution of uranium in groundwater in the Bushmanland and Namaqualand areas, Northern Cape Province, South Africa.

Nicolene van Wyk, Henk Coetzee, Peter Wade

Council for Geoscience, Private Bag X112, Pretoria, 0001, nvanwyk@geoscience.org.za

Previous studies undertaken by various South African researchers have highlighted the occurrence of natural occurring uranium in the groundwater at Bushmanland and Namaqualand areas. In some localised areas the surrounding rocks have elevated levels of uranium, however in the near vicinity of sampled boreholes where elevated uranium concentrations have been detected the uranium concentrations in the rocks are relatively low. No ore mineralization is present in any geological formations in the area. Knowledge of the hydrological controls of uranium transport in the groundwater in this area is limited. The predictive models presented by other researchers have shown no correlation between uranium levels in the rock and in the groundwater. The geochemical modelling software, PHREEQC, has been applied to explore the above observations. This poster will concentrate on the distribution of uranium in the groundwater, the associated geology and the hydrological controls of the area.