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## Preliminary results from a field reconnaissance for shale gas in the Karoo of Tanzania

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The Karoo is a Gondwanan basin type sequence that extends across South America, south-central Africa, Madagascar, India and Antarctica. It is currently being investigated in South Africa, with special interest for black shale and its potential toward energy and socio-economic development. Curiously, there was no mention of shale gas at the 25th Colloquium of Africa Geology, in Dar Es Salam, Tanzania, despite the continent's energy and economic challenges and apparent vast shale gas potential. We therefore decided to undertake some field reconnaissance work to investigate the Karoo of Tanzania and target the Permian black shale (main potential source rock in South Africa). Challenges facing us were mainly logistical (transport), and bureaucracy (permits and authorizations). These problems resulted in the majority of our time spent waiting, often in very testing conditions.

We first investigated the contact between the Karoo and basement Pan-African TTG and marble sequences. These form the Uluguru Mountains around Morogoro (300 km west of Dar Es Salam). This contact delineates a topographic change; and despite being mapped as a tectonic contact, field observations were inconclusive. Toward the south, Selous is the largest Karoo outcropping region within Tanzania. This represents more than 50 % of the total Karoo in Tanzania. North of the Rufiji River, we were able to identify probable Karoo sequences. We will however require additional support for work extending south into Selous. Finally, by bicycle, we were successful in locating and sampling black shale in the coastal region of Tanga (along the Sigi River, northern Tanzania). This section bears remarkable similarities to the Whitehill-Prince Albert Formations contact region in South Africa. Displaying similar features like probable glacially-derived soft-sediment deformation structures and characteristic white-weathered laminated shale (also suggesting possible high TOC values). From these preliminary results, we will build a program for further field investigations, now supported by a one year research permit. This will include geological mapping, delineating the stratigraphy, geochemistry and understanding the structure of these Karoo basins. We intend to perform these investigations in Selous, Tanga and those extending to Kenya.

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