



## BPI for Palaeontological Research

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Private Bag 3, WITS 2050, South Africa • Telephone +27 11 717-6682 • Fax +27 11 717-6694

Email: [bruce.rubidge@wits.ac.za](mailto:bruce.rubidge@wits.ac.za)

**31 July 2008**

Mr Alfonso Niemand  
Nature and Business Alliance Africa (Pty) Ltd.

[alfonso@yebo.co.za](mailto:alfonso@yebo.co.za)

Dear Alfonso,

### **Kliprivier Water Pipeline**

As requested by you I have undertaken an EIA to assess the affect that the installation of a water pipeline alongside the R550 road at Kliprivier will have on palaeontological heritage in the area. My report is included herewith.

In my opinion this development will not negatively affect palaeontological heritage in the area affected.

Please come back to me if there is anything you do not understand or are unhappy with in the reports.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'B. Rubidge'.

**Professor Bruce Rubidge**

## INSTALLATION OF WATER PIPELINE AT KLIPRIVIER – PALAEOLOGICAL IMPACT ASSESSMENT

### **Introduction**

An EIA was undertaken in the Kliprivier area along the proposed course of a three kilometer long water pipeline extending along the R550 from the farm Roodepoort eastwards toward the R59 road. This report covers the area which is to be affected by the installation of the water pipeline.

### **Generalised Geology of the route traversed**

The entire traverse route of the proposed pipeline is underlain by rocks of the Malmani Subgroup of the Transvaal Supergroup, which are Precambrian in age. In the traverse area this Subgroup comprises mainly chert and quartzite.

### **Specific geology of route**

The proposed pipeline will extend for about three kilometres alongside the R550 road from the farm Roodepoort eastwards to a point presently covered by a bluegum plantation at S26°25'007" E28°03'42.5". Close to Roodepoort the proposed traversed of the pipeline is covered grassland which was previously ploughed and is now covered by thick soil (Figure 1).



*Figure 1: Grasslands which were previously ploughed land on the farm Roodepoort on the northern side of the R550 road.*

East of S26°24'53.6" E28°03'09.6" the soil cover appears to be thinner as is evidenced by rocks exposed in an erosion furrow extending along the R550 road on its southern side and also a roadside quarry close to the bluegum plantation (Figure 2). These limited exposures reveal that the predominantly quartzitic rocks are extensively folded and dip variously both to the east and west around a north-south trending fold axis.



*Figure 2: Exposures of rocks of the Transvaal Supergroup on the southern side of the R550 road.*

While the rocks do outcrop in the southern side of the road, at most places they are covered by thick soil and scree deposits (Figure 3).



*Figure 3: Scree deposits overlying exposed rocks of the Transvaal Supergroup in an erosion furrow on the southern side of the road R550.*

### **Palaeontological Heritage**

The rocks of the Transvaal Supergroup, which are of Precambian age, are known to have extensive stromatolite fossils in the dolomite rich stratigraphic units. No stromatolites were seen in the limited exposures in the study area. Of particular importance, in

sinkholes and caves, within the dolomitic units of Transvaal Supergroup are Quaternary-aged sedimentary infill.

During the course of this palaeontological environmental impact assessment particular attention was paid to looking for possible Quaternary cave and sinkhole infill deposits, but none were found in the limited exposure available.

### **Recommendation**

As there are no rock outcrops on the northern side of the R550 road, and because most of the area is covered by thick soil, it is unlikely that excavation to lay the pipeline will damage any palaeontological heritage. As all the rock exposures along the road revealed only silicified rocks it is unlikely that there will be any Quaternary sinkhole or cave deposits in the area affected.

However because important Quaternary successions are known in cave deposits within the Transvaal Supergroup in the Cradle of Humankind it is recommended that, should any fossil bone-bearing rocks be exposed by excavation activities, a qualified palaeontologist be contacted to assess the exposure for fossils.

A handwritten signature in blue ink, appearing to read 'B. Rubidge', is written over a light blue rectangular highlight.

**Professor Bruce Rubidge**

