



Bernard Price Institute for Palaeontological Research

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

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marion.bamford@wits.ac.za
Tel: 011 717 6690

Cultural Resources Impact Assessment for proposed development of the property: Plot 39 of the Farm Rietfontein 375 JR

Palaeontology

Summary

The construction of a mausoleum (or family estate for the deceased) is proposed on Plot 39 on the farm Rietfontein 375 JR, Kungwini District, Gauteng Province, South Africa ($25^{\circ} 52' 40''$ S, $28^{\circ} 19' 20''$ E). From a desktop study it has been found that there are no important palaeontological remains. Coal deposits may occur in the area but these are not deemed to be sensitive so development of the mausoleum may proceed.

Method

Maps of the area were obtained from Zitholele Consulting and site was located on geological maps and the palaeobotany database of the BPI at the University of the Witwatersrand.

Results

The site falls in an area with wide bands of Vaalian rocks (Fig 1), with Permian Vryheid deposits well to the south, but it is possible that there are pockets of Vryheid Formation in the area. The Vaalian rocks predate any fossils and the two Formations in the area are Hekpoort (shales and breccias) and Rooihuogte (andesite) of the

Pretoria Group. Sometimes solution cavities form in these rocks and fossil bones accumulate inside (like the caves in the Cradle of Humankind – Sterkfontein Valley) but as there are no outcrops resembling such forms, it is unlikely that there are bone-bearing breccias present.

The rocks of the Vryheid Formation may contain coal deposits. Coals comprise compressed and altered plant material that is usually taxonomically unrecognisable to palaeobotanists, but the shales between the coals may contain recognisable plant impressions. Such deposits, however, are common in the eastern Gauteng, Mpumalanga and northern KwaZulu Natal areas so there is no need to preserve this site, if it has coal.

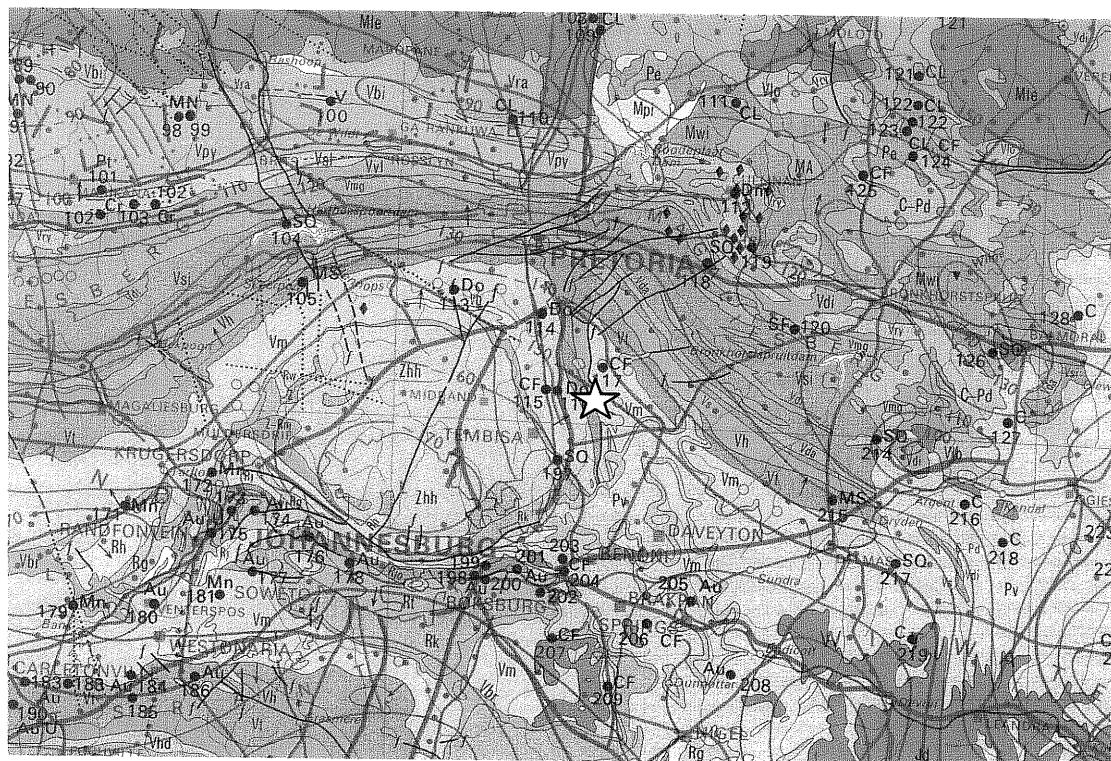


Fig 1: Portion of 1: 1 000 000 Geological Map of South Africa. Star indicates location of the proposed site for the mausoleum.

If any fossil remains such as silicified tree trunks or animal bones are located during or after development the appropriate authorities (see below for contact details) have to be informed according to the stipulations in Act 25 of 1999, and the fossils removed and housed in a national palaeontological institution.

Conclusion

Based on the above study, it is the author's opinion that there is no objection to the development of the above mentioned property as far as palaeontological issues are concerned.

A handwritten signature in black ink, appearing to read "MKBamford".

Prof M K Bamford
Palaeobotanist
Bernard Price Institute for Palaeontological Research
University of the Witwatersrand

Appropriate authorities

M K Bamford – marion.bamford@wits.ac.za (fossil plant remains)

B S Rubidge – bruce.rubidge@wits.ac.za (fossil animal remains)