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Dr Ragna Redelstorff
Heritage Officer Archaeology, Palaeontology & Meteorites Unit
South African Heritage Resources Agency
111 Harrington Street
Cape Town 8001

Dear Dr Redelstorff

RE: Request for Exemption of any Palaeontological Impact Assessment for the proposed Mixed Residential Development on several portions of the Farm Rooikoppies 297 JQ in Marikana in the Rustenburg Local Municipality, Northwest Province

In my capacity as a professional palaeontologist, I am requesting exemption for palaeontological impact assessment in terms of the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) which requires that the proposed development must be preceded by the relevant impact assessment, in this case for palaeontology.

The Farm Rooikoppies 297 JQ (Fig. 1) is entirely on highly metamorphosed igneous rocks of the Rustenburg Layered Suite, Bushveld Igneous Complex (Fig. 2), with the Pyramid Gabbro-norite in the north and the Mathlagame Norite-anorthosite in the south. The mafic and felsic (igneous) rocks intruded through the sedimentary rocks of the upper Pretoria Group of the Transvaal Supergroup about 2055 million years ago and formed a laterally and vertically extensive layered system called the Rustenburg Layered Suite (Zeh et al., 2020). They contain reserves of the platinum group elements and are not fossiliferous because of their igneous origin (Cawthorn et al., 2006).

The very low to zero palaeosensitivity is confirmed by the grey colour in the SAHRIS palaeosensitivity map (Fig. 3). We request, therefore, that no palaeontological impact assessment be required, and that as far as the palaeontological heritage is concerned, that the project be authorised.

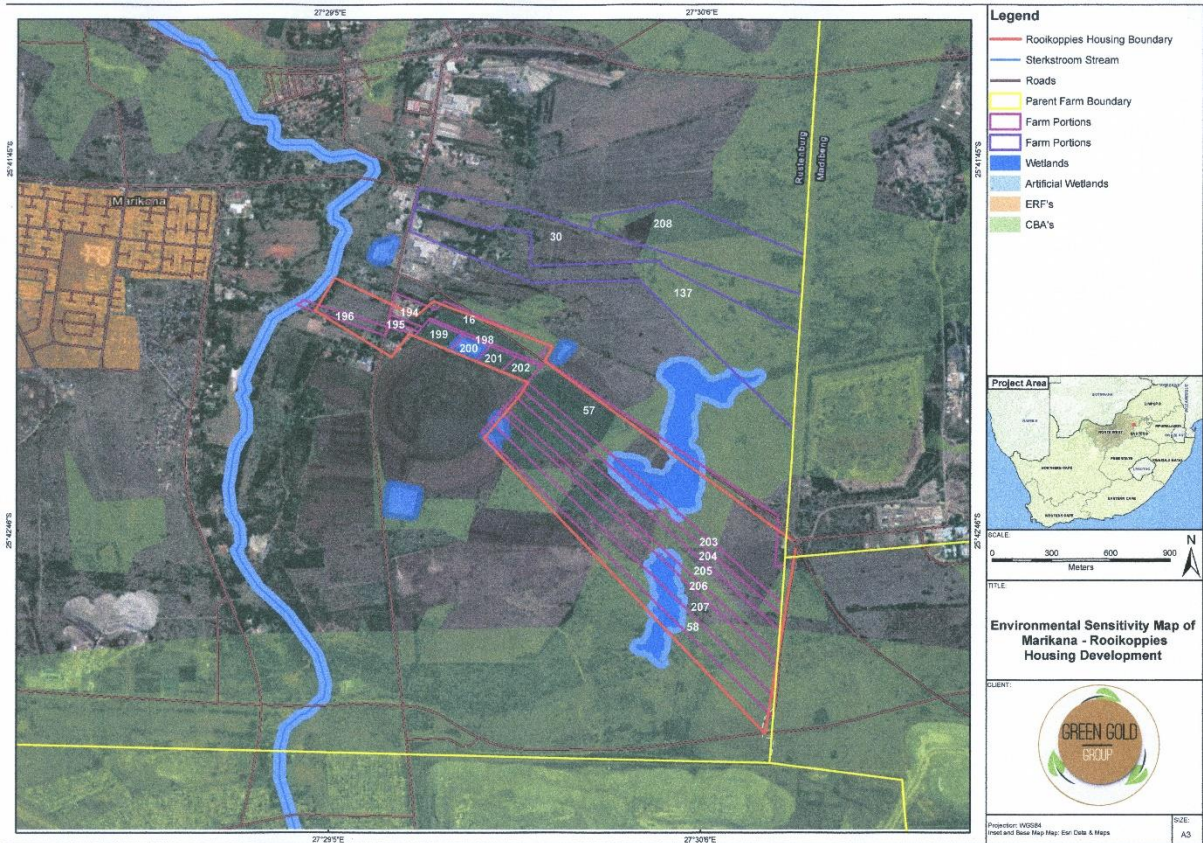


Figure 1: Google Earth site map of the sections for development on Rooikoppies 297 JQ as indicated in the legend.

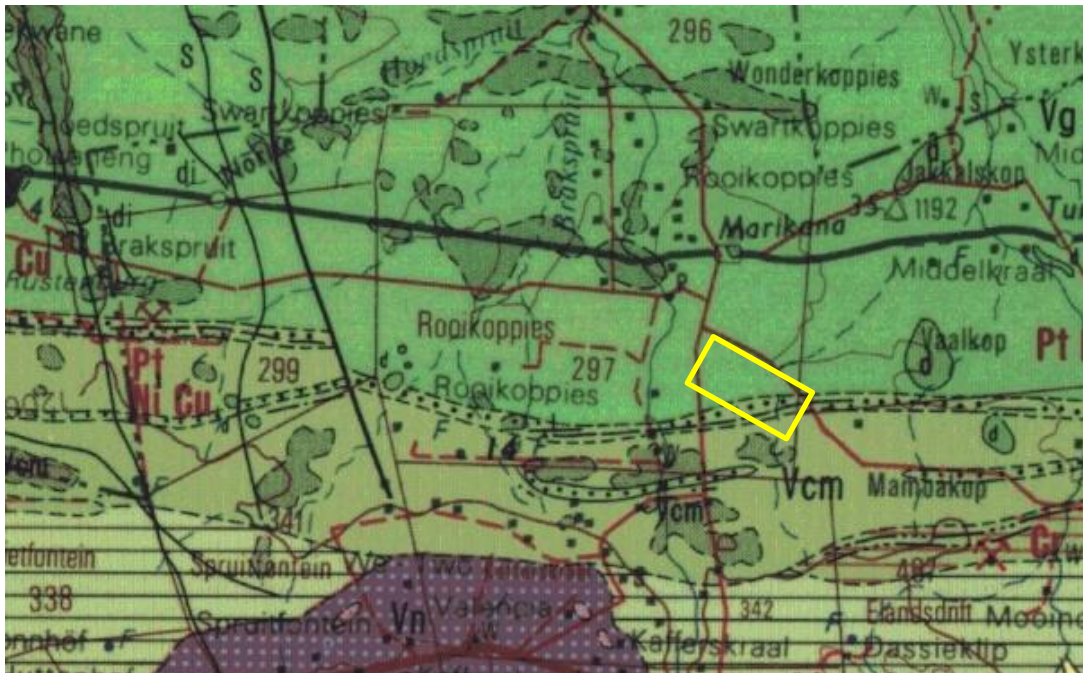


Figure 2: Geological map of the area around the Farm Rooikoppies 297 JQ. The location of the proposed project is indicated within the yellow rectangle. Abbreviations of the rock types are: Vg = Pyramid Gabbro-norite, Vcm = Mathlagame Norite-anorthosite, Vn

= Kolobeng Norite, d = pipes with hortonolite dunite, harzburgite and pyroxenite. Map enlarged from the Geological Survey 1: 250 000 map 2526 Rustenburg.

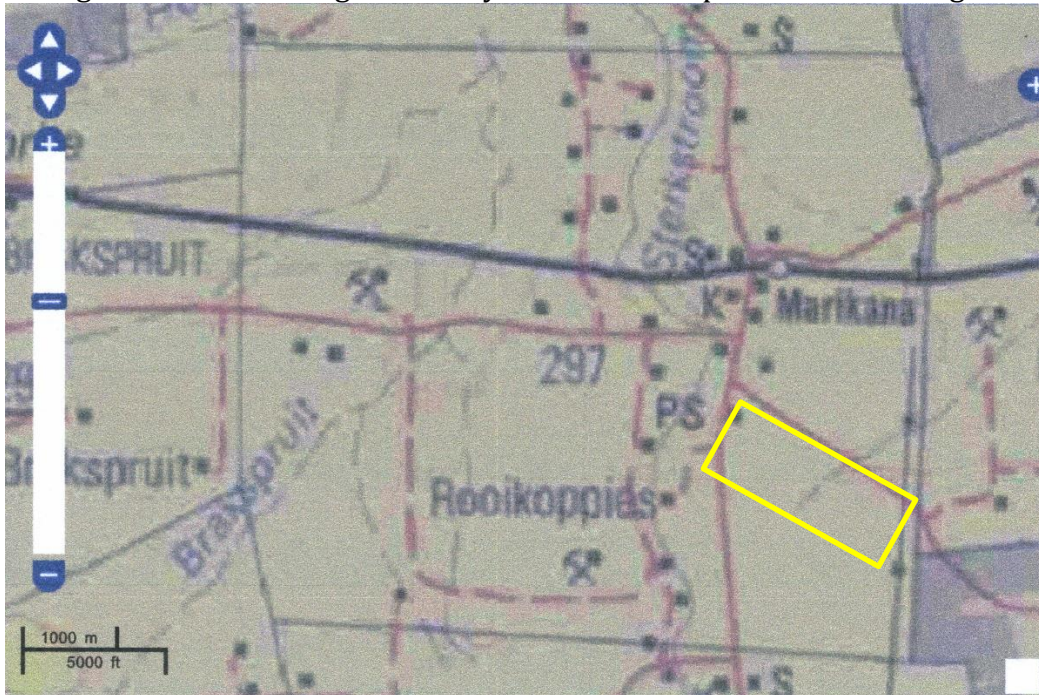


Figure 3: SAHRIS palaeosensitivity map for the site for the proposed mixed residential development on Rooikoppies 297 JQ shown within the yellow rectangle. Background colours indicate the following degrees of sensitivity: red = very highly sensitive; orange/yellow = high; green = moderate; blue = low; grey = insignificant/zero.

Yours faithfully

Prof Marion Bamford
Palaeobotanist; PhD (Wits 1990)

Reference cited:

Cawthorn, R.G., Eales, H.V., Walraven, F., Uken, R., Watkeys, M.K., 2006. The Bushveld Complex. In: Johnson, M.R., Anhaeusser, C.R. and Thomas, R.J., (Eds). The Geology of South Africa. Geological Society of South Africa, Johannesburg / Council for Geoscience, Pretoria. pp 261-281.

Zeh, A., Wilson, A.H., Gerdes, A., 2020. Zircon U-Pb-Hf isotope systematics of Transvaal Supergroup – Constraints for the geodynamic evolution of the Kaapvaal Craton and its hinterland between 2.65 and 2.06 Ga. Precambrian Research 345, 105760.
<https://doi.org/10.1016/j.precamres.2020.105760>

Declaration of Independence

This letter has been compiled by Professor Marion Bamford, of the University of the Witwatersrand, sub-contracted by Archaeological and Heritage Services Africa (Pty) Ltd, Pretoria, South Africa. The views expressed in this report are entirely those of the author and no other interest was displayed during the decision making process for the Project.

Specialist: Prof Marion Bamford

Signature:

A handwritten signature in blue ink, appearing to read 'M Bamford', with a horizontal line underneath.