

APPENDIX N: PALEONTOLOGICAL ASSESSMENT

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG



Palaeosciences Centre, East Campus, 1 Jan Smuts Avenue, Braamfontein, Johannesburg
Private Bag 3, WITS 2050, Johannesburg, SOUTH AFRICA Tel: 011 717 6682

Marion.bamford@wits.ac.za

30 October 2020

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 construction of three ventilation shafts for Marula Mine, Limpopo 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 owners of Marula Mine in Limpopo (about 100km southeast of Polokwane) proposed to construct three ventilation shafts for the underground operations of the mine (Fig 1) together with the relevant servitudes such as water pipelines and power.

The whole area lies on non-fossiliferous rocks of the Rustenburg Layered Suite, Bushveld Complex that has intruded through the Transvaal Supergroup rocks. The formations affected (Fig 2) are the Dwars River Subsuite, comprising norite and anorthosite, and the Croyden subsuite comprising pyroxenite and feldspathic pyroxenite. These ancient rocks are highly metamorphosed (Cawthorn et al., 2006) and there is no chance of fossils being preserved within them. The overlying Quaternary alluvium and soils are a product of weathering and do not preserve fossils. There is no chance of any impact on the South African fossil heritage from this project. This is confirmed by the blue and grey colours on the SAHRIS palaeosensitivity map (Fig 3).



Figure 1: Annotated google map showing the planned servitudes and shafts for Marula Mine.

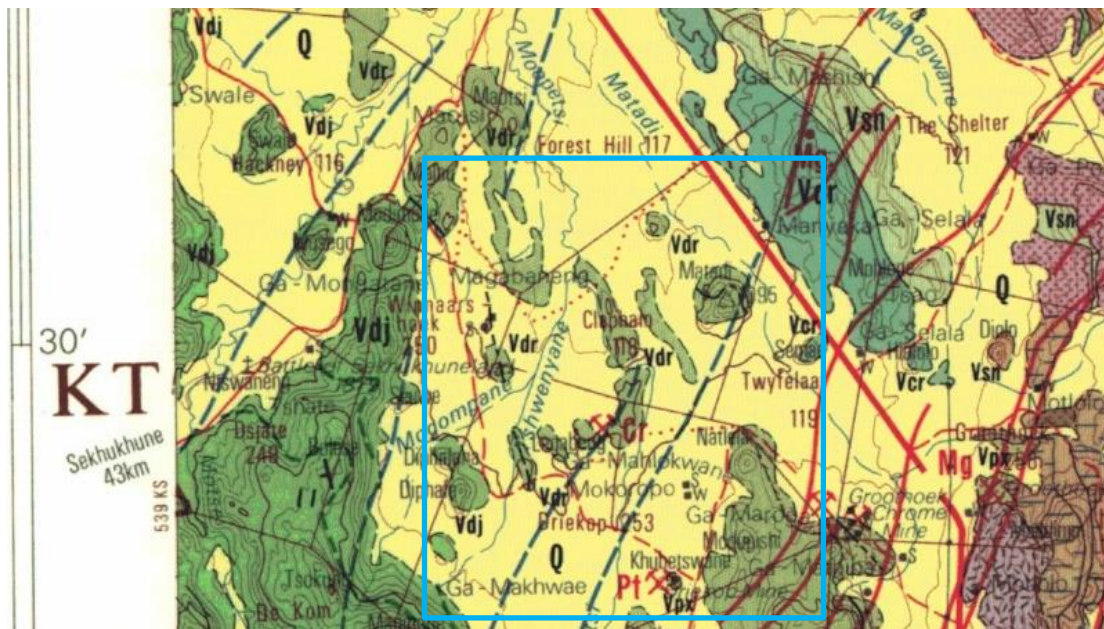


Figure 2: Geological map of the area around the Marula Mine. The location of the proposed project is indicated within the blue outline. Abbreviations of the rock types: Q = Quaternary soils and alluvium; Vdr = Dwars River Subsuite; Vcr = Croyden Subsuite; Vdj = Dsjate Subsuite. Map enlarged from the Geological Survey 1: 250 000 map 2430 Pilgrims Rest.



Figure 3: SAHRIS palaeosensitivity map for the site for the Marula Mine project 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.

We are therefore requesting that no palaeontological impact be required for this project and that as far as the palaeontology is concerned, the project may proceed.

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.