



BPI for Palaeontological Research

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

Email: bruce.rubidge@wits.ac.za

14 May 2011

Ms Linda Munro
Metago
Johannesburg
2055

E-Mail linda.munro@metago.co.za

Dear Ms Munro

Impala Mining Development – Palaeontological Impact Assessment

As requested, I have undertaken a desktop EIA to assess the possible affect on palaeontological heritage which will result from the mining activities of Impala Platinum on the farms Welbekend 117 JQ, Goedgedacht 114 JQ, Klipgatkop, Klein Doornspruit 108 JQ, Roodekraalspruit, Doornspruit Annex 109 JQ, Goedgedacht 110 JQ and Hartbeestspuit 88 JQ in the Rustenberg district (Figure 1).

The entire area is underlain by igneous rocks of the Rustenberg Layered Suite of the Precambrian Bushveld Igneous Complex. Most of the farms are situated on rocks of the Pyramid Gabbro-Norite, portions of Roodekraalspruit and Hartbeestspuit 88 JQ extend onto the Bierkraal Magnetite Gabbro Suite, and a northeasterly extension of Hartbeestspuit 88 JQ extends on to the Rashoop Granophyre Suite and the Lebowa Granite Suite. The Bushveld Igneous Complex is an intrusive igneous body comprising a series of ultramafic-mafic layers and a suite of associated granitoid rocks. As these rocks are Precambrian in age and are of igneous origin it is highly unlikely that fossils will be affected by the proposed mining development. A very small portion of the southern side of the farm Klein Doornspruit 108 JQ is covered by Quaternary alluvial deposits. Although highly unlikely, there is a possibility that the Quaternary deposits could contain fossils.

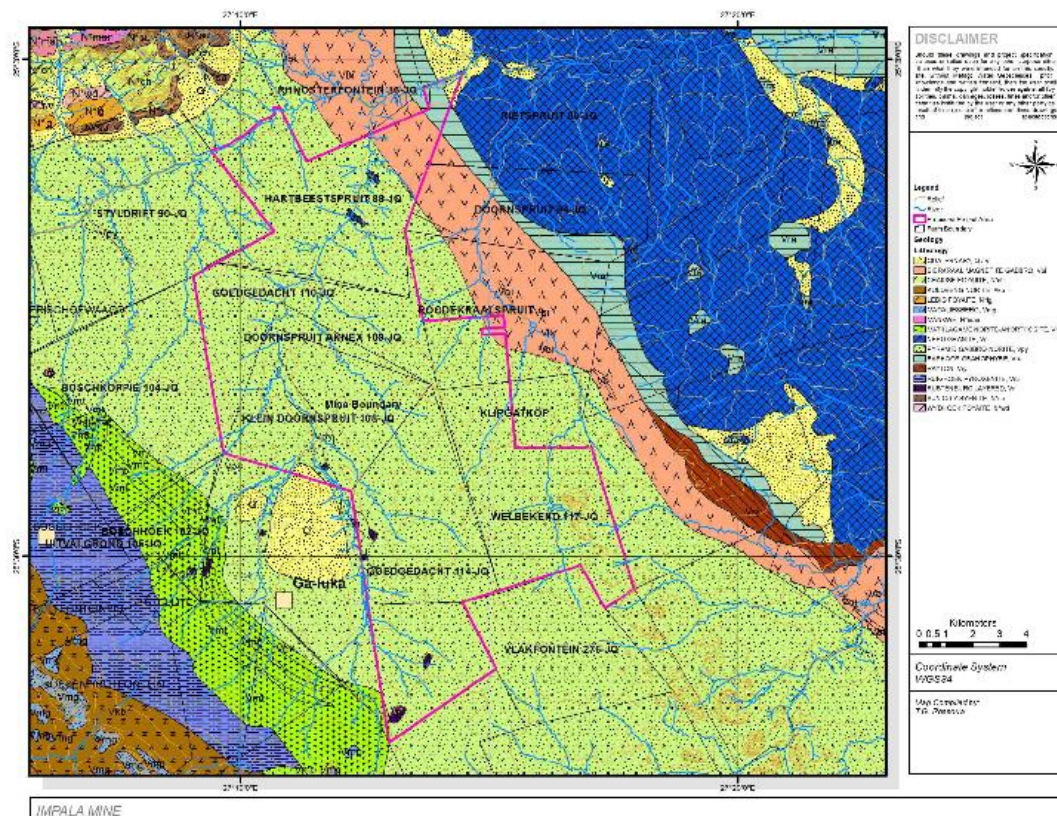


Figure 1: Geological Map of the Rustenberg area showing the Impala Platinum mining area

In my opinion this development will not negatively affect palaeontological heritage and suggest that, from a paleontological perspective, this development should proceed. If fossils of animals or plants are discovered in the process of development on the farm Klein Doornspruit 108 JQ, or on any other sections of the property, a professional palaeontologist must be called in to assess the situation.

Bibliography

Cawthorn RG, Eales HV, Walraven F, Uken R, and Watkeys MK. 2006. The Bushveld Complex. In: Johnson MR, Anhaeusser and Thomas RJ (Eds). *The Geology of South Africa*. Geological Society of South Africa, Johannesburg/Council for Geoscience, Pretoria. pp 261-281.

Mc Carthy, T.S. and Rubidge, B.S. 2005. *The story of Earth and Life – a southern African perspective on the 4.6 billion year journey*. Struik Publishers, Cape Town. pp 333.

Partridge TC, Botha GA, and Haddon IG. 2006. Cenozoic deposits of the interior. *In*: Johnson MR, Anhaeusser and Thomas RJ (Eds). *The Geology of South Africa*. Geological Society of South Africa, Johannesburg/Council for Geoscience, Pretoria. 585-604.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'B. I. Rubidge', with a stylized flourish at the end.

Professor Bruce Rubidge PhD, Pr Sci Nat