



BPI for Palaeontological Research

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Mr Anton Pelsler
Archaetnos cc.

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Dear Mr Pelsler

Volspruit Mine, Mokopane – Palaeontological Impact Assessment

As requested, I have undertaken a desktop EIA to assess the possible affect on palaeontological heritage which will result from mining activities on the farm Volsruit 326 KR situated south of the town of Mokopane in Limpopo Province.

Most of the farm Volspruit is underlain by Precambrian igneous rocks of the lower Rustenberg Layered Suite of the Bushveld Igneous Complex. To the west, a small part of the property is underlain by of the Precambrian Silverton Formation of the Pretoria Group. The extreme southern portions of the property are underlain by Jurassic volcanic rocks of the Karoo Supergroup. The floodplains of the Nyl River are covered by Quaternary alluvial deposits.

The Busveld Igneous Complex is an intrusive igneous body comprising a series of ultramafic-mafic layers and a suite of associated granitoid rocks, while the Silverton Formation of the Pretoria Group comprises hornfels and shale. As these rocks are Precambrian in age and most are of igneous origin, it is highly unlikely that fossils will be affected by the proposed mining development. The Jurassic Karoo rocks comprise lava which is certainly not fossil-bearing, and the Quaternary sediments on the floodplain of the Nyl River are the only sedimentary deposits where there is a possibility of fossils being preserved. As these deposits are not consolidated it is very unlikely that any fossils will be present.

In my opinion this development will not negatively affect palaeontological heritage. I suggest that, from a paleontological perspective, this mining development may proceed. However should any ancient bone or plant material be uncovered in the process of mining activities then a qualified palaeontologist must be contacted to assess the situation.

Bibliography:

Cawthorn RG, Eales HV, Walraven F, Uken R, and Watkeys MK. 2006. The Busveld 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.

McCarthy, 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. pp. 585-604.

Yours sincerely

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

Professor Bruce Rubidge PhD, FGSSA, Pr Sci Nat