

BPI for Palaeontological Research

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

10 November 2012

Email: bruce.rubidge@wits.ac.za

Engela Grobler Ages Limpopo 120 Marshall Street Polokwane 0699 E-Mail: egrobler@ages-group.com

Dear Ms Grobler,

Palaeontological Assessment – Dioflash Solar Park

As requested, I have undertaken a desktop EIA to assess the possible effect on palaeontological heritage which will result from the proposed Solar Park of approximately 200 hectares, on the southern side of the Remainder Portion of the farm Melrose East 149 located 22 km south-east from Kimberley, Northern Cape Province (Figure 1).

Following the 1:250 000 Geological Map (1993 Map Sheet 28924 Kimberley) the southern side of the farm Melrose East 149 is underlain by thick Quaternary alluvial deposits, which in turn overlie Permian sedimentary rocks of the lower Ecca Group, but these are not exposed. Following a Google Earth survey it appears that the area is covered by savannah vegetation and there are no rock outcrops.

As the Karoo rocks are not exposed in the area, coupled with the fact that fossils are scarce in the lower Ecca Group in this part of the basin there is almost no possibility that the development will affect Karoo palaeontological heritage. There is a limited possibility that the Quaternary alluvial deposits could contain fossil plants, and/or vertebrate bones.

From my experience from past fieldwork in the area, I consider that this development will not negatively affect palaeontological heritage and suggest that, from a paleontological perspective, this development should proceed. If, in the unlikely event that fossilized plants or animals are exposed in the process of development activities, it will create a unique opportunity to explore the area for fossils. It is thus recommended that, should fossils be exposed, a qualified palaeontologist be contacted to assess the exposure for fossils so that the necessary rescue operations are implemented. Depending on the nature of the fossils discovered, this could entail excavation and removal to a registered palaeontological museum collection. A list of professional palaeontologists is available from South African Heritage Resources Agency (SAHRA).



Figure 1: Map showing the locality of the study area

Bibliography

Almond J.E., de Klerk B, and Gess R.W. (in prep). Palaeontological heritage of the Eastern Cape. SAHRA technical report.

Johnson M.R., van Vuuren C.J., Visser J.N.J., Cole, D.I., Wickens H.deV., Christie A.M., Roberts D.L. & Brandl G. 2006. Sedimentary rocks of the Karoo Supergroup. *In*: Johnson MR, Anhaeusser and Thomas RJ (Eds). *The Geology of South Africa*. Geological Society of South Africa, Johannesburg/Coucil for Geoscience, Pretoria. 361-500.

Mac Rae C. 1999. *Life etched in stone: fossils of South Africa*. The Geological Society of South Africa, Johannesburg, pp 305.

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. pp. 585-604.

Yours sincerely

b. l. R.C.

Professor Bruce Rubidge PhD, FGSSA, FRSSA, Pr Sci Nat