RECOMMENDED EXEMPTION FROM FURTHER PALAEONTOLOGICAL STUDIES:

PROPOSED LIBANGENI LANDFILL SITE, FARM LEEUWFONTEIN NO. 188JR, DR JS MOROKA LOCAL MUNICIPALITY, MPUMALANGA

John E. Almond PhD (Cantab.)
***Natura Viva* cc,**
PO Box 12410 Mill Street,
Cape Town 8010, RSA
naturaviva@universe.co.za

November 2013

1. OUTLINE OF PROPOSED DEVELOPMENT

It is proposed to develop a small landfill facility at Libangeni (= Vaalbank) on Portion 2 of the Farm Leeuwfontein No 188JR, Dr JS Moroka Local Municipality, Mpumalanga. The site is located in flat terrain at *c*. 980 m amsl on the southern side of Vaalbank and the R568 tar road, *c*. 130 km NE of Pretoria (Fig. 1). The category of waste disposed of at the landfill is General Waste (G) including domestic, commercial and construction rubble.

This palaeontological heritage assessment comment for the landfill project was commissioned by Heritage Contracts and Archaeological Consulting CC (HCAC) (Contact details: Mnr Jaco van der Walt. Postnet Suite No. 426, Private Bag X4, Wierda Park, 0149. E-mail: contracts.heritage@gmail.com. Tel: 012 771 3137. Fax: 086 691 6461).

2. GEOLOGICAL BACKGROUND

The geology of the study area at Libangeni is shown on 1: 250 000 geological map 2528 Pretoria (Council for Geoscience, Pretoria), for which a separate sheet explanation has yet to be published (Fig. 2). The study area is underlain by Precambrian grey to pink granitoid rocks of the Nebo Granite within the upper part of the Bushveld Complex (Eales 2001, Cawthorn *et al.* 2006). The granites here intrude Precambrian volcanic rocks of the Rooiberg group.

3. PALAEONTOLOGICAL HERITAGE

The granite bedrocks in the Lebangeni study area are entirely unfossiliferous. Superficial sediments (*e.g.* colluvium, alluvium, soils) mantling the bedrocks are generally only very sparsely fossiliferous at most.

The Libangeni waste disposal site study area near Ermelo is generally of VERY LOW palaeontological sensitivity.

Figure 1: Google earth© satellite image showing the location of the proposed landfill facility at Libangeni on Portion 2 of the Farm Leeuwfontein No 188JR, Dr JS Moroka Local Municipality, Mpumalanga (arrowed). The Rhenosterkop Dam is situated *c.* 3.4 km to the north of the study site.

4. CONCLUSIONS & RECOMMENDATIONS

The development of the proposed waste disposal facility near Libangeni , Mpumalanga, is of very low significance in terms of local palaeontological heritage since the igneous rocks (granites) underlying the site are entirely unfossiliferous.

It is therefore recommended that exemption from further specialist palaeontological studies and mitigation be granted for this waste disposal facility development.

Should any substantial fossil remains (*e.g.* vertebrate bones and teeth, petrified wood, plant fossil assemblages) be encountered during excavation, however, these should be reported to SAHRA for possible mitigation by a professional palaeontologist at the developers expense (SAHRA contact details: Ms. Colette Scheermeyer, South African Heritage Resources Agency, 111 Harrington Street. P.O. Box 4637, Cape Town 8000. Tel: 021 462 4502. Email: cscheermeyer@sahra.org.za. Fax: +27 (0)21 462 4509. Web:www.sahra.org.za).

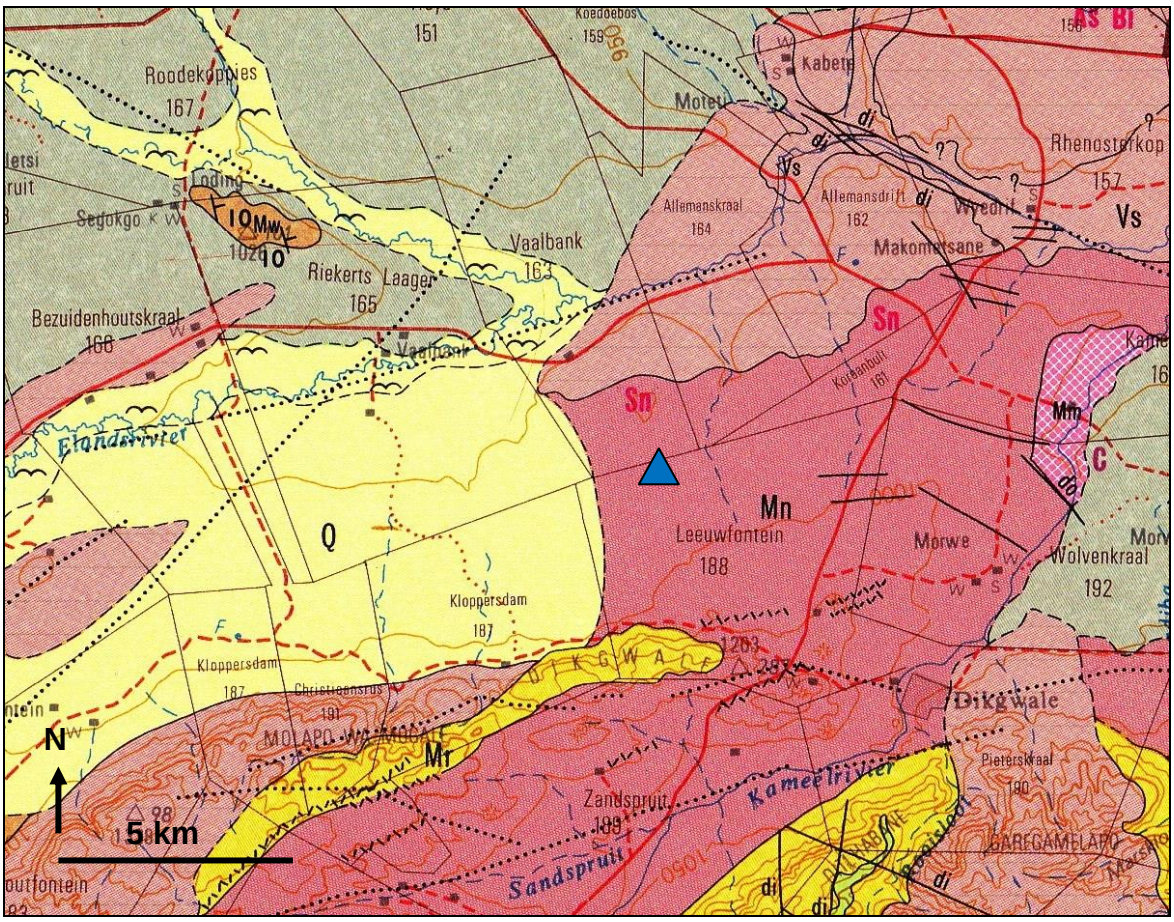

Fig. 2. Extract from 1: 250 000 geology map 2528 Pretoria (Council for Geoscience, Pretoria) showing the approximate location of the proposed Libangeni waste disposal site, Mpumalanga (blue triangle). The site will be excavated into a Precambrian granitic intrusion known as the Nebo Granite within the upper part of the Bushveld Complex (Mn, dark pink).

5. KEY REFERENCES

CAWTHORN, R.G., EALES, H.V., WALRAVEN, F., UKEN, R. & WATKEYS, M.K. 2006. The Bushveld Complex. In: Johnson. M.R., Anhaeusser, C.R. & Thomas, R.J. (eds.) The geology of South Africa, pp. 261-281. Geological Society of South Africa, Johannesburg & the Council for Geoscience, Pretoria.

EALES, H.V. 2001. A first introduction to the geology of the Bushveld Complex and those aspects of South African geology that relate to it, 84 pp. Council for Geoscience, Pretoria.

MACRAE , C. 1999. Life etched in stone. Fossils of South Africa. 305 pp. The Geological Society of South Africa, Johannesburg.

6. QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape under the aegis of his Cape Town-based company *Natura Viva* cc. He is a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHP (Association of Professional Heritage Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.

Dr John E. Almond
Palaeontologist
***Natura Viva* cc**