



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 opencast mine, concentrator plant and associated activities on Portions 1 – 6 and RE of the farm Steelpoortdrift 365 KT, 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.

Background

Red Kite Environmental Solutions (Pty) Ltd was appointed by Vanadium Resources (Pty) Ltd (VanRes) to undertake an application for the amendment of the EMPr for the Steelpoortdrift Mining Project, as well as to apply for a Water Use Licence. A Scoping and EIA process will be undertaken for the application.

Vanadium Resources proposes to establish an opencast mine, concentrator plant and associated activities on portion 1 – 6 and remaining extent of the farm Steelpoortdrift 365 KT (Fig. 1). The minerals to be mined are titanium, vanadium and iron ore. The SPD Project's LoM is estimated at 25 years.

A concentrator plant is proposed at the mining site. The concentrator plant will process RoM from the open pit mining operation and produce a V2O5 concentrate that will be beneficiated further into a final flake product at a separate SRL Plant. The concentrator

has been planned to process the vanadiferous bearing titanomagnetite at a steady state feed rate 1.6Mtpa RoM. The concentrator plant has been designed to include crushing, milling, wet magnetic separation, dewatering as well as regrind magnetic separation sections. It will encompass the following main operational areas:

- three-stage crushing circuit;
- ball milling circuit;
- wet magnetic separation to produce a refined concentrate;
- dewatering facility to remove water from the residues for re-use as process water;
- concentrate regrind mill;
- regrind magnetic separation; and
- concentrate belt filter.

A TSF is proposed for the tailings emanating from the concentrator process. The Concentrator TSF will be used to temporarily stockpile dry tailings (<15% water content) that will be used to backfill the surface mining areas.

The proposed project will include the following infrastructure and activities:

- Opencast mining
- Stockpiling of overburden and waste rock for use in backfilling of the opencast void
- Stockpiling of ROM and product
- Construction of drainage line crossing
- Construction and operation of a concentrator plant
- Dry stockpiling of tailings material (<15% water content) from the concentrator plant
- Backfilling of the opencast void with a portion of the tailings material
- Return water dams
- Construction of Storm Water Control infrastructure, i.e. cut-off trenches and PCDs
- Construction of haul and access roads
- Construction of a solar installation/farm
- Boreholes for groundwater abstraction and monitoring
- Offices, ablution facilities, parking and loading areas, etc.
- Security and fencing of operational areas

Geology and Palaeontology

The SPD Mining right area lies on Quaternary sands and alluvium and on rocks of the Rustenburg Layered Suite (Bushveld Igneous Complex). In particular, it is on the Upper Zone that is composed of ferro-gabbro, with a small section on diabase and another section on the Nebo Granite (Lebowa Granite Suite) (Fig. 2). All of these rocks are of volcanic origin and have intruded through the sediments of the Pretoria Group (Cawthorn et al., 2006). None of them would preserve any fossils. There is no chance of any fossils being disturbed or destroyed by the project, confirmed by the colour coding of the SAHRIS Palaeosensitivity map (Fig. 3; grey = insignificant to zero) so we are requesting exemption from any further palaeontological impact assessment.

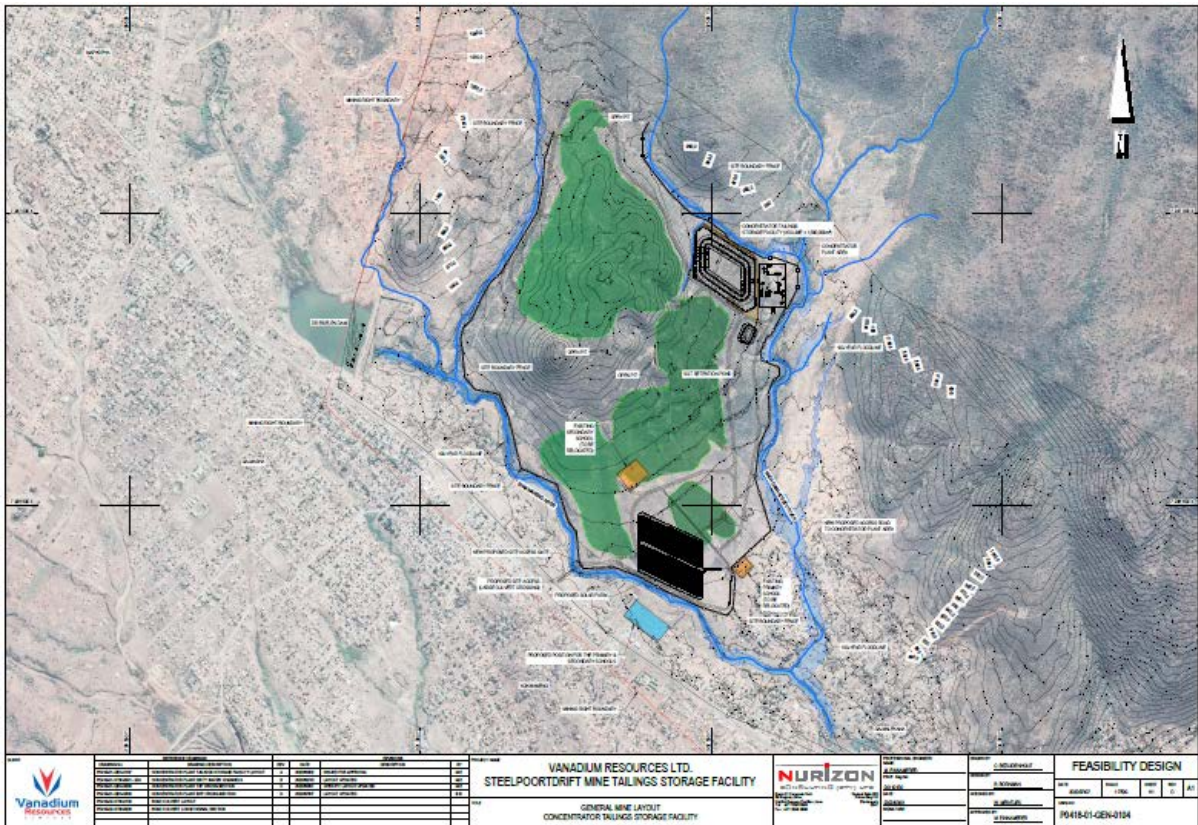


Figure 1: Detailed site map for the SPD project on Farm Steelpoortdrift.

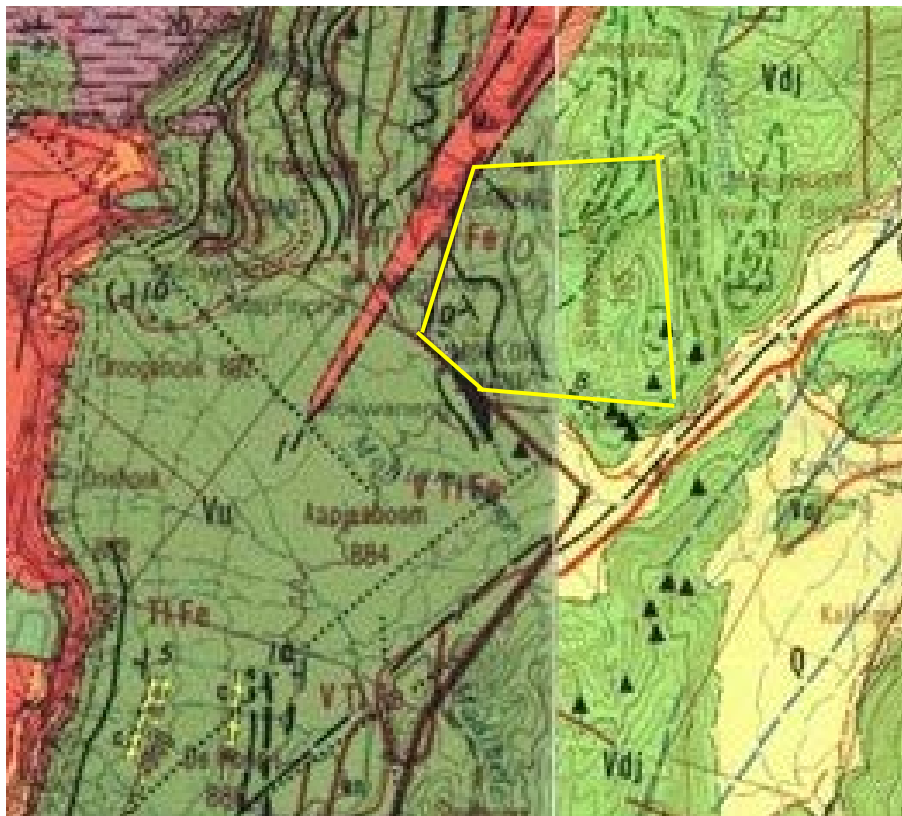


Figure 2: Geological map of the area around the Farm Steelpoortdrift 365 with the SPD mining area indicated within the yellow polygon. Abbreviations of the rock types are:

Vu/Vdj = UpperZone of ferro-gabbro; Mn = Nebo Granite; Q = Quaternary sand. Map enlarged from the Geological Survey 1: 250 000 maps (west) 2428 Nylstroom; (right) 2430 Pilgrims Rest.



Figure 3: SAHRIS palaeosensitivity map for the site for the proposed SPD project shown within the yellow polygon. Background colours indicate the following degrees of sensitivity: red = very highly sensitive; orange/yellow = high; green = moderate; blue = low; grey = insignificant/zero.

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.

Palaeosensitivity map:

<https://sahris.sahra.org.za/map/palaeo>

Declaration of Independence

This letter has been compiled by Professor Marion Bamford, of the University of the Witwatersrand, sub-contracted by Red Kite Environmental Solutions (Pty) Ltd, South Africa. The views expressed in this report are entirely those of the author and no other interest was displayed during the decision making process for the Project.

Specialist: Prof Marion Bamford

A handwritten signature in blue ink, appearing to read 'M Bamford', with a horizontal line underneath.

Signature: