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15 July 2021

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 installation of Flue Gas Cleaning Plant at Tutuka Power Station between Bethal and Standerton, Mpumalanga 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.

Eskom is proposing to install a Flue Gas Cleaning Plant at the Tutuka Power Station. It will be placed within the existing power station at site 1 or site 2 (Fig 1). Although the power station has been constructed some decades ago on potentially very highly fossiliferous rocks of the Vryheid Formation (Figs 2-3; *Glossopteris flora*), the site is already very disturbed from the construction and operation of the power station. In addition, in this part of the Karoo Basin, in the Highveld coal field and close to New Denmark area, the uppermost shale layer is at 50 m below the land surface (Snyman, 1998, fig16) and this is the uppermost stratum that could possibly preserve fossils.

Based on the already highly disturbed site as well as the great depth of potential fossils, so no chance of finding fossils, we request that this project be exempt from any further palaeontological impact assessment. In the unlikely finding of fossils when excavations have commenced, a fossil chance find protocol has been included.



Figure 1: Google Earth Map of Tutuka Power Station with the two alternative sites for the proposed Gas Flue Cleaning Plant shown by the pins.

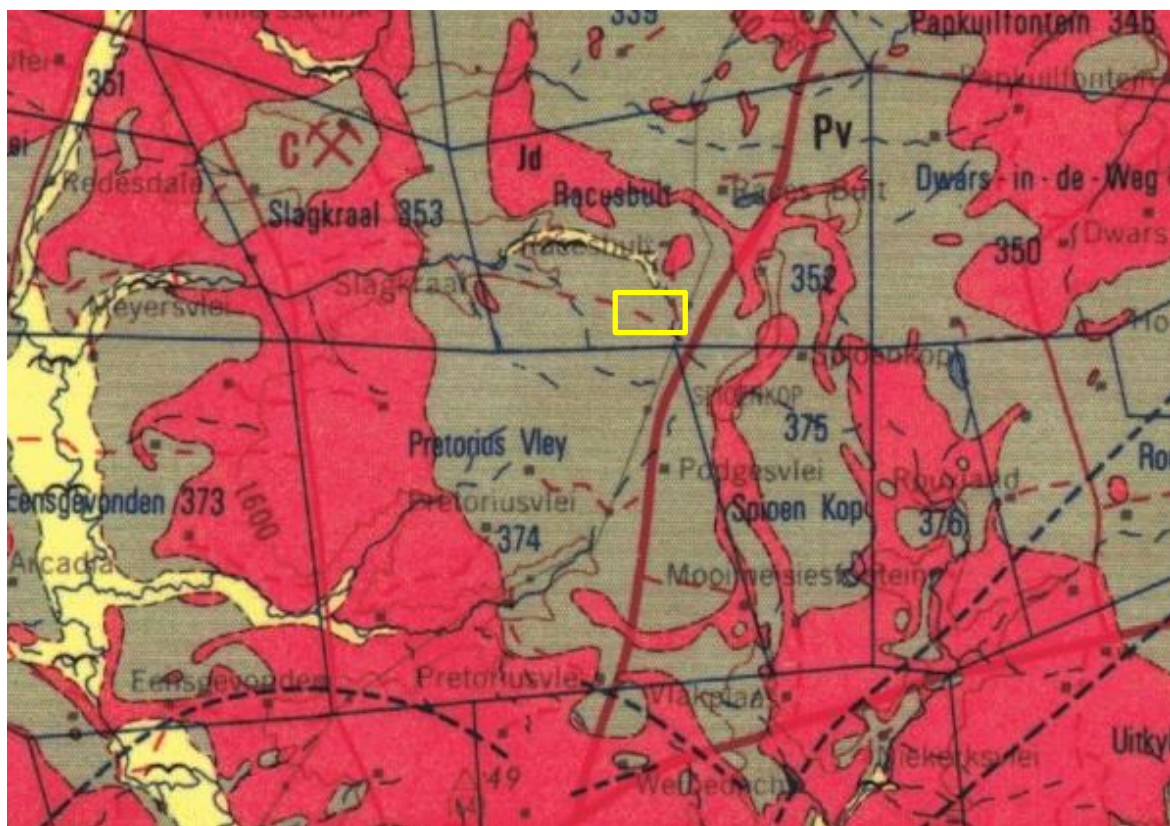


Figure 2: Geological map of the area around the Tutuka Power station on Farm Pretorius Vlei 374 indicated within the yellow rectangle. Abbreviations of the rock types are: Pv = Vryheid Fm shales, sandstone, coal seams; Jd = Jurassic dolerite. Map enlarged from the Geological Survey 1: 250 000 map 2628 East Rand.



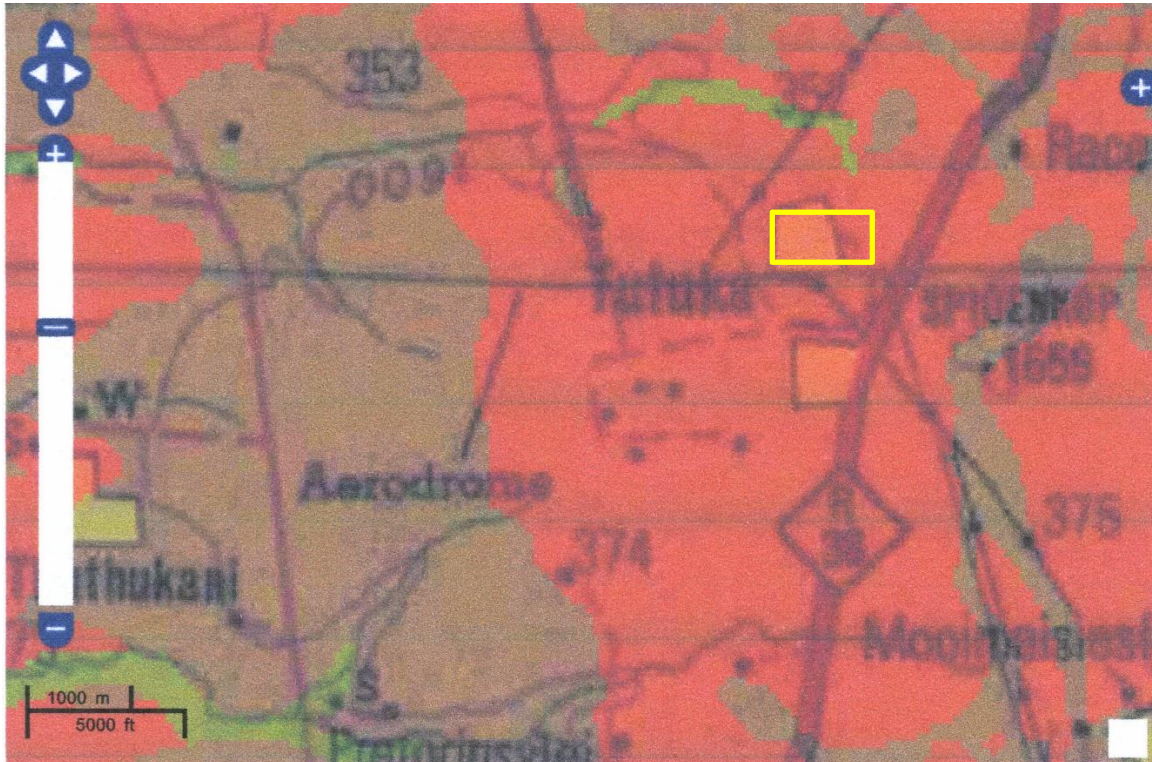


Figure 3: SAHRIS palaeosensitivity map for the proposed Gas Flue Cleaning Plant shown within the yellow rectangle. Background colours indicate the following degrees of sensitivity: red = very highly sensitive; orange/yellow = high; green = moderate; blue = low; grey = insignificant/zero.

Yours faithfully

Prof Marion Bamford  
Palaeobotanist; PhD (Wits 1990)

#### References cited:

Snyman, C.P., 1998. Coal. In: Wilson, M.G.C., and Anhaeusser, C.P., (Eds). The Mineral Resources of South Africa: Handbook, Council for Geosciences 16, 136-205.

Palaeosensitivity map:

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

## Chance Find Protocol

**Monitoring Programme for Palaeontology – to commence once the excavations / drilling activities begin.**

1. The following procedure is only required if fossils are seen on the surface and when drilling/excavations commence.
2. When excavations begin the rocks must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (plants, insects, bone, coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
3. Lists of possible fossils can be provided to the developer to assist in recognizing them.
4. Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
5. If there is any possible fossil material found by the developer/environmental officer/miners then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible.
6. Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits.
7. If no good fossil material is recovered then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the project has been completed and only if there are fossils.
8. If no fossils are found and the excavations have finished then no further monitoring is required.

### **Declaration of Independence**

This letter has been compiled by Professor Marion Bamford, of the University of the Witwatersrand, sub-contracted by Archaeological Heritage Service Africa, Pretoria, 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

Signature:

