Palaeontological Impact Assessment for proposed Photovoltaic facility near Zeerust.

Desktop Study

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Introduction

A Palaeontological Impact Assessment has been requested by Mr Anton Pelser of APelser Archaeological Consulting cc on behalf of his client Sharples Environmental Services cc. This company proposes to build a 75MW Photovoltaic, Renewable Energy, Solar Facility on the Remainder of the Farm Kruisrivier 271- JS and on the Remainder of Portion 15 of the Farm Kameeldoorn 271 – JS and associated power lines on the Farm Kruisrivier No. 270PV facility in Ramotshere Moiloa Local Municipality to the south east of the town of Zeerust for the nearby substation, as required by the National Heritage Act (No 25 of 1999).

Geology and Palaeontology of area

The site is situated ancient rocks of the Timeball Hill and Rooihoogte Formations of the Pretoria Group (Fig. 1). There is also diabase in the area. These rocks are predominantly mudrocks, quartzites with some basal lavas and have been submitted to low grade metamorphism (Eriksson et al., 2006). The rocks are more than 2200 million years old and this predates macroand land fossils. If any microscopic organisms such as bacteria, algae or fungi had been present they would likely have been destroyed by the metamorphism. There is no record of fossils from this site.



Fig 1: Geology of the region around Zeerust and locality marked with white arrow. Map enlarged from the Geolological Survey, Pretoria; 1984, 1: 1 000 000. Vt = Timeball Hill and Rooihoogte Formations (Pretoria Group); Vdi = Vaalian, diabase.

Recommendation

As far as the palaeontology is concerned, the proposed project may go ahead as there are no fossils in the area.

References

Eriksson, P.G., Altermann, W., Hartzer, F.J., 2006. The Transvaal Supergroup and its precursors. 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 237 – 260.

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