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23 May 2015

Ms Engela Grobler
Ages (Pty) Ltd
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Dear Ms Grobler,

Palaeontological Desktop Study – Delta Solar Plant Development

As requested, herewith a Desktop Palaeontological Impact Assessment with regard to the proposed Delta Solar Park Photovoltaic (PV) Power Plant in the Lephalale Local Municipality, within the Waterberg District Municipality, Limpopo Province.

Yours sincerely

Bruce Rubidge PhD, FGSSA, FRSSA, Pr Sci Nat

PALAEONTOLOGICAL DESKTOP STUDY
DELTA SOLAR PARK DEVELOPMENT,
LEPHALALE LOCAL MUNICIPALITY, WATERBERG DISTRICT MUNICIPALITY, LIMPOPO PROVINCE.

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DATE: 23 June 2015

EXECUTIVE SUMMARY

A desktop Palaeontological Impact Assessment was undertaken on the proposed Delta Solar Park situated on Portion 1 of the Farm Geelhoutskloof 359 LQ, located in the Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province. The proposed development is to set up a Solar Park.

Although not exposed, the entire study area is deeply underlain by Precambrian rocks of the Waterberg Group and more superficially by Quaternary sands of the Kalahari Group. There is a slight, but unlikely, possibility that the sands of the Kalahari Group could contain fossils of Quaternary age.

In my opinion this development will not negatively affect palaeontological heritage. If, in the extremely unlikely event those fossils are exposed in the Quaternary sand deposits in the process of development activities, a qualified palaeontologist must be contacted to assess the exposure for fossils so that the necessary rescue operations are implemented.

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REPORT

Background Information of the development

This desktop report is part of a Heritage Impact Assessment to determine the effect of the proposed Delta Solar Park photovoltaic (PV) plant situated on portion Portion 1 of the Farm Geelhoutskloof 359 LQ, located in the Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province. The study area is situated in the triangle between the roads leading from Steenbokpan to Lephalale in the north and Jakkalspan and Lephalale in the south, and covers a surface area of about 152 ha.

The study was commissioned by Africa Geo-Environmental and Engineering Services Limpopo (AGES) (Pty) Ltd and I was asked to provide a desktop assessment of the effect that the proposed development will have on the palaeontological heritage.

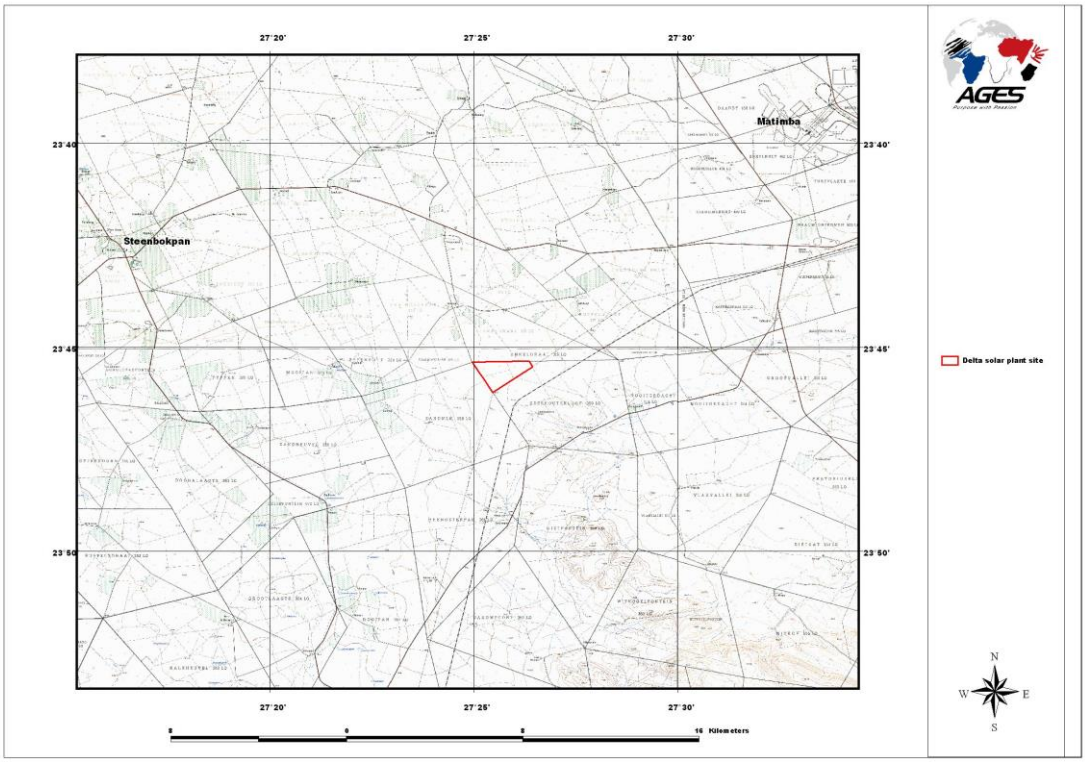

Figure 1: Map showing the position of the proposed Delta Solar Park Photovoltaic (PV) Power Plant situated on portion of the farm Geelhoutskloof 359 LQ, in the Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province (Sheet Number 2326 Ellisras).

Details of the study area

The study area proposed for the development of a Solar Park is on a part (±234 ha) of the Remainder of Portion 1 of the farm Geelhoutskloof 359 LQ in the Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province. (Figure 1) and is covered by the 1:50 000 topographical Map Sheet *2326 Ellisras.*

Geological Setting

The area is very deeply underlain by Precambrian conglomerates and sandstones of the Mogalakwena Formation of the Waterberg Group, and the entire study area is overlain by Quaternary sands (Figure 2).

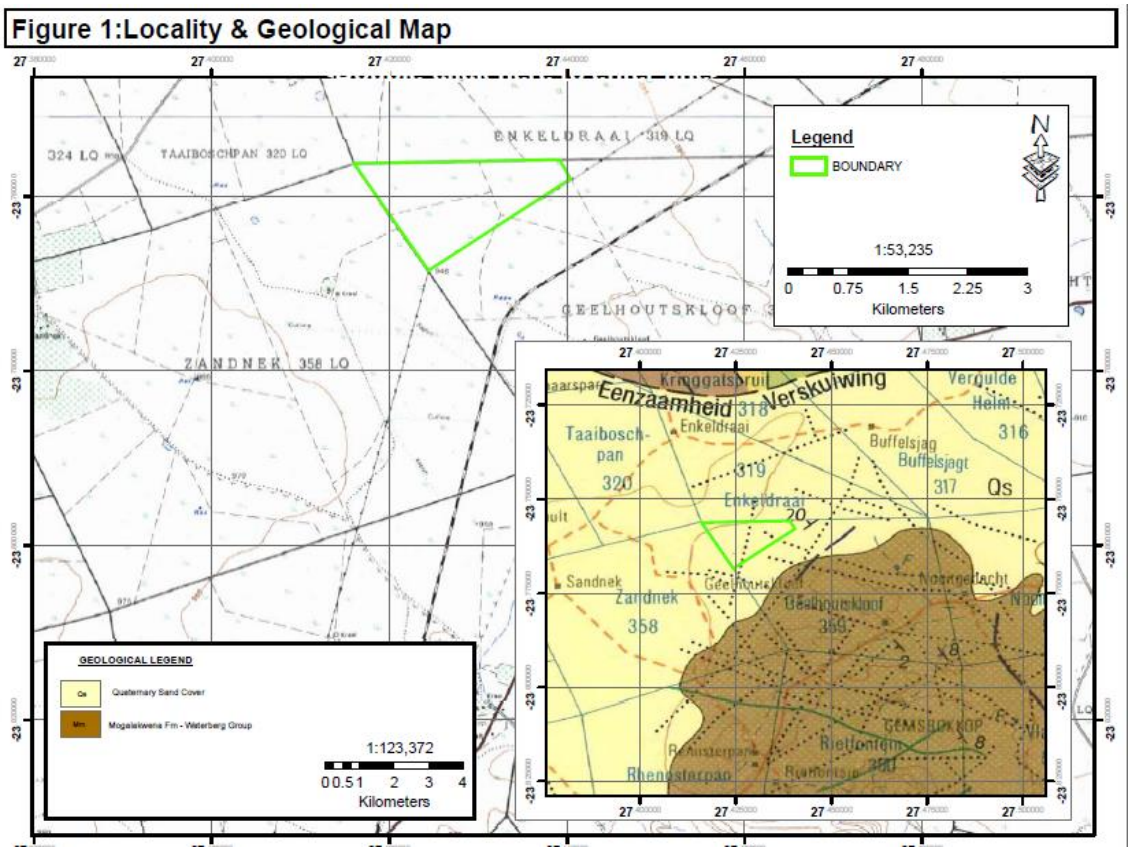

Figure 2: Geology of the Study area (1:250 000 Geological Map Series of the Republic of South Africa, Sheet number 2326 Ellisras).Green triangle shows study area

Palaeontological Heritage

As there are no rocks exposed and the entire study area is covered by Quaternary deposits it is extremely unlikely that fossils will be found in the study area. The Quaternary sands are of sedimentary of origin and the possibility thus exists that they could host fossils but this is extremely unlikely.

Recommendation

Because of the nature of the construction of solar parks it is extremely unlikely that the proposed development will have any effect on palaeontological heritage. However if fossils are exposed in the Quaternary deposits it will create a unique opportunity to explore the area for fossils. It is thus recommended that, in the unlikely event that fossils are exposed as a result of construction activities, a qualified palaeontologist must be contacted to assess the exposure for fossils before further development takes place 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).

Conclusions

The proposed development of the Delta Solar Park will extend over unconsolidated Quaternary deposits. It is extremely unlikely that fossils will be exposed as a result of the solar park development. It is considered that, from a palaeontological perspective, the development of the proposed Delta Solar Park should proceed, but that if fossils are uncovered in the course of construction activities, the developer immediately calls in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.

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