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20 September 2022

Thulisile Nyalunga
Directorate: Integrated Environmental Authorisations
Sub-directorate: National and Public Sector

Department of Environmental Affairs
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Phillip Hine, Dr Ragna Redelstorff & Natasha Higgit
Manager: APM
South African Heritage Resources Agency (SAHRA)
111 Harrington Street
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Dear Ms Nyalunga, Mr Hine, Ms Higgit and Dr Redelstorff,

SAHRIS Case IDs 18361, 18362, 18363 and 18364
PROPOSED DEVELOPMENT OF THE PIXLEY PARK RENEWABLE ENERGY FACILITY NEAR DE AAR, NORTHERN CAPE

IN REFERENCE TO LATEST INTERIM COMMENT DATED 12 September 2022

We recently received notice about the latest comment made by Ms Higgit, the case officer handling this case on SAHRIS for the heritage component of the above application. Ms Higgit reiterated the request for a palaeontological field assessment as part of the heritage compliance process for the four projects that constitute the Pixley Park Renewable Energy Project:

"As per the previous Interim Comment, SAHRA requested that a field-based PIA be conducted for the proposed development. As the previous field surveys of the region date to 2012, an updated field assessment is required."

In a request for clarity regarding this requirement, the following response was received from Ms. Higgit:

"The SAHRA comments are based on the information provided in the application. Additionally, Butler conducted a field assessment of the adjacent area, which we had insisted on. While she identified some fossils in the adjacent areas to this development, fossils might still be present under application, hence the need for a field-based PIA."

In response, we would like to note the following:

- The role of a Heritage Impact Assessment (and Palaeontological Impact Assessment) is not to identify heritage resources but to assess likely impacts to resources that may result from the proposed development
- As palaeontological sensitivity is based on geology, and geological formations extend beyond the boundaries of particular properties, statements about the palaeontological sensitivity of a particular geological formation are relevant to the whole geological formation within a particular area. The SAHRIS Palaeosensitivity Map is coded to describe

the fossil sensitivity of geological formations and units and is not based directly on point data describing the exact positions of fossil finds.

- The Palaeosensitivity map does indicate that this area has VERY HIGH levels of palaeontological sensitivity. This rating is based on the Palaeotechnic report completed by Dr Almond and Dr Pether for the Northern Cape in 2009. This report notes that the Lower Beaufort Group (underlying this proposed development area) has the potential to preserve trace fossils, silicified wood and rare vertebrate remains, however in the immediate vicinity of the study area, "no vertebrate fossils and only scattered woody plant impressions of the Permian Glossopteris Flora were observed" (Almond, 2012)
- To reiterate, while the Lower Beaufort Group sediments have the potential to preserve fossils, no significant fossils are known from the immediate vicinity.
- The recommendations made in the HIA and PIA submitted for these projects rely on evidence provided by palaeontologists who have previously completed work in the immediate vicinity of the development.
- None of the reports submitted to SAHRA recommend a field-based palaeontological assessment, contrary to the statement made by Ms Higgit. Our recommendations, as they pertain to palaeontology are as follows:

"Based on the geology of the area and the palaeontological record as we know it, it can be assumed that the formation and layout of the dolomites, sandstones, shales and sands are typical for the country and some do contain fossil plant, insect, invertebrate and vertebrate material. The sands of the Quaternary period would not preserve fossils. Almond (2010) found no fossils of significance during his site visit to Vetlaagte, and the Wag 'n Bietjie farm has the same lithology. It is unknown what lies below the surface.

Based on previous surveys in the area, the presence of superficial deposits (probable Pleistocene to Recent age) covering the fossiliferous sediments (Ecca and Beaufort Groups), as well as the extensive network of intrusive dolerite dykes and sills that bake (thermally metamorphose) adjacent mudrocks, it is anticipated that the impact of the development will mainly be ***LOW to MODERATE.****" (Chapelle, 2022)*

- The above recommendation is based on the Desktop Assessment completed for the Pixley Park projects completed by Dr Chapelle (2022) and informed by the findings made by Dr Almond (2012).
- Recently, a separate desktop palaeontological assessment was completed by Dr Bamford for another REF development located on a property located immediately adjacent to this development area. Dr Bamford concluded that:

"The proposed sites and routes lie on the non-fossiliferous Jurassic dolerite, moderately sensitive Quaternary alluvium, highly sensitive Tierberg Formation (Ecca Group, Karoo Supergroup, with plants and silicified wood fragments) and the very highly sensitive Adelaide Subgroup (Beaufort Group, Karoo Supergroup with possible vertebrate bones). This desktop study supports the recommendation of John Almond's earlier assessment that the ***fossils are sporadic, not very significant****. However, a Fossil Chance Find Protocol should be added to the EMPr. Based on this information it is recommended that no further palaeontological impact assessment is required unless fossils are found by the developer/ environmental officer/ other designated responsible person once excavations/drilling activities have commenced. As far as the palaeontology is concerned, the project should be authorised (Bamford, 2021)"*

- A subsequent field-based palaeontological assessment was completed for the adjacent property by Butler (2022), on request from SAHRA. As a result of this field-based assessment, Butler (2022) identified weathered ripple trace fossils but no significant fossil remains were identified:

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*"No fossils were found in the development although trace fossils were identified. Sediments of the Karoo Supergroup in this area are **deeply weathered** and in places baked by Jurassic dolerite. Extensive excavations into deep bedrock during the construction phase is not anticipated and it is thus considered that the proposed development is deemed appropriate and feasible and will **not lead to detrimental impacts on the palaeontological reserves** of the area. The construction of the development may be authorised in its whole extent, as the development footprint is **not considered sensitive in terms of palaeontological resources**." (Butler, 2022)*

As such, we have recommendations from four separate palaeontologists that the geological sediments underlying the area proposed for development are, in fact, NOT palaeontologically sensitive. It is argued here that a field-based palaeontological assessment is VERY UNLIKELY to provide any new information regarding the palaeontological sensitivity of the area, and that this will have no further impact on the findings or recommendations of the HIA that has been provided to SAHRA.

It is noted that, while a field-based assessment at this stage is unlikely to provide any new information regarding the palaeontological sensitivity of the development area, excavations into the geological substrate may reveal sensitive geology associated with the Prince Albert Formation. It is therefore proposed that, should Environmental Authorisation be granted, excavations during the construction phase into the Prince Albert Formation be inspected by a palaeontologist.

We therefore urge SAHRA's APM to reconsider the requirement for a field-based assessment for the proposed development at this stage. Sufficient information is available to determine that the palaeontological sensitivity is low to moderate. Potential impacts can be managed through the implementation of the recommended Chance Finds Procedure and the inspection of excavations into the Prince Albert Formation by a palaeontologist. ***We therefore request that SAHRA require an inspection of excavations by a palaeontologist during the construction phase in order to mitigate any potential risk.***

We feel it is imperative that we are taking previous studies into account before asking for more fieldwork. This is also consistent with the aims and objectives of the DEA Screening Tool, the SAHRIS Palaeosensitivity Map and the accumulation of the archive of recorded heritage sites and reports contained in SAHRIS.

Yours faithfully,

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Nicholas Wiltshire
Director, CTS Heritage

This letter has been shared with and supported by:

Prof. M. Bamford
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Dr K. E. Chapelle
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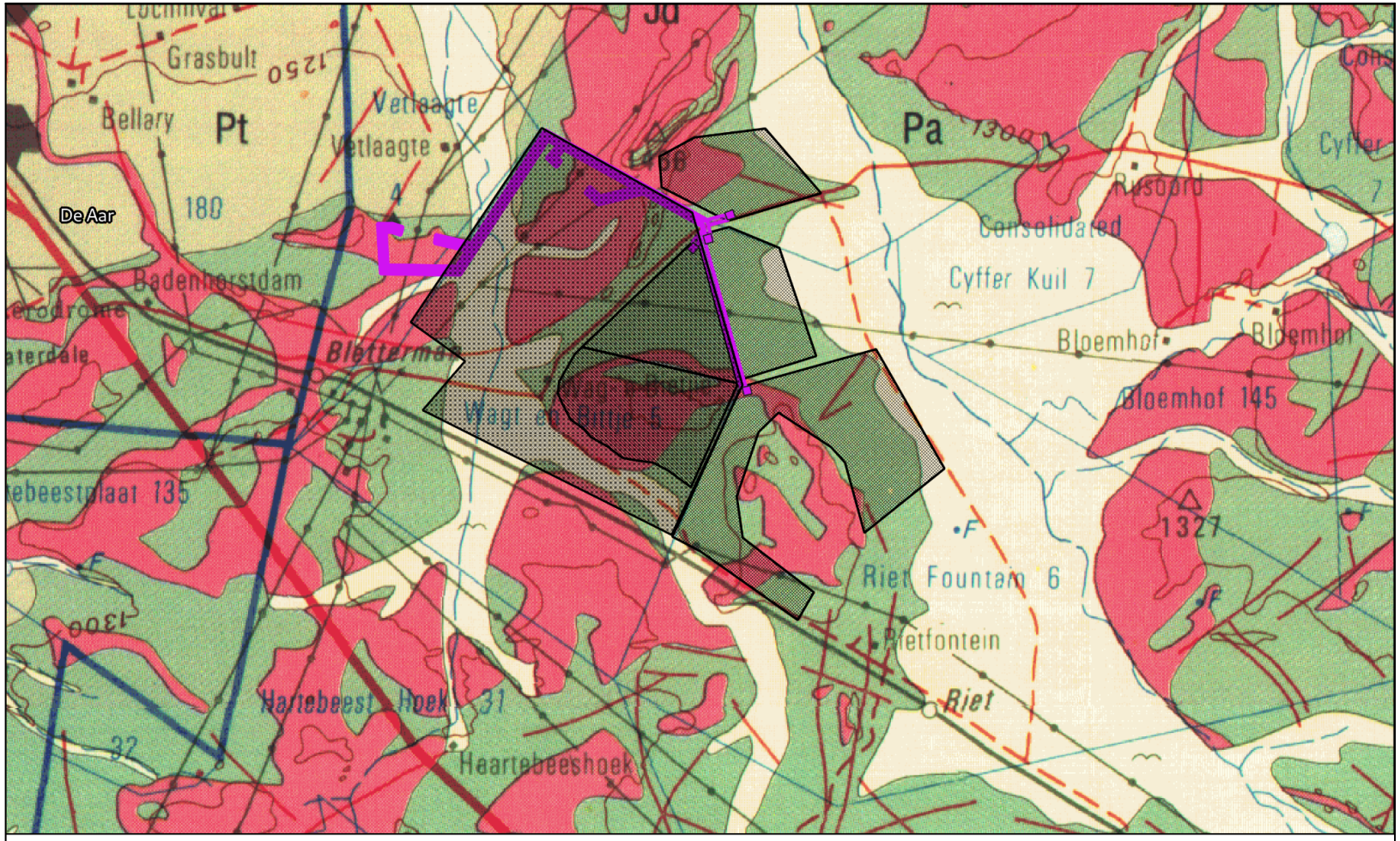

Map indicating the location of the Pixley Park REF and the adjacent Wag n Bietjie Project Area

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