Phase 1 Palaeontological Impact Assessment of a proposed new hotel development on Erf 5206 in Springbok, Northern Cape Province.

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Summary

The proposed development footprint is underlain by palaeontologically insignificant, metamorphic rocks, which are capped by equally insignificant superficial deposits. The proposed development may proceed as far as the palaeontological heritage is concerned and no further palaeontological assessments are necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint.

Introduction

The report is an assessment of potential palaeontological impact with regard to a proposed new hotel development on Erf 5206 in Springbok, Northern Cape Province. The 1.2 ha site is located next to the Springbok Caravan Park and the R355 provincial road going south **(Fig. 1 & 2**).

Site Coordinates:

A) 29°40'17.63"S 17°53'54.22"E
B) 29°40'16.53"S 17°53'59.81"E
C) 29°40'19.00"S 17°54'0.44"E
D) 29°40'20.63"S 17°53'54.87"E

Methodology

The assessment was carried out in accordance with National Heritage Resources Act 25 of 1999 with the aim to assess the potential impact on palaeontological heritage resources that may result from the proposed development. The palaeontological significance of the affected areas were evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature, followed by an on-site field assessment.

Assumptions and Limitations

The presentation of geological units present within the study area is derived from the 1:1 000 000 scale map of South Africa and the 1:250 000 scale geological map 2916 Springbok, which may vary in their accuracy. It is also assumed, for the sake of prudence, that fossil remains are always uniformly distributed in fossil-bearing rock units, although in reality their distribution may vary significantly.

Background

The proposed development footprint is underlain by undifferentiated metamorphic rocks of the Proterozoic Bushmanland Terrane, a tectonostratigraphic subdivision within the igneous and metamorphic Namaqua-Natal Province, considered to be of no palaeontological significance (Cornell et. al 2006) (**Fig. 3**). Palaeontologically significant superficial overburden in the region is mainly represented by unconsolidated sediments that may occasionally yield Quaternary fossils where pan, spring or well-developed alluvial deposits are found.

Field Assessment

The site is located on a gently sloping (west-facing) erosional granite surface, covered by locally derived sheetwash, downwasted rubble and colluvium **(Fig. 4 & 5).**

Impact Statement Recommendation

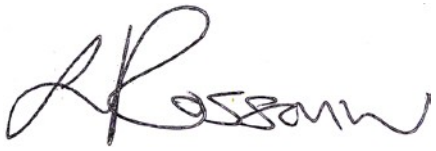
The investigation indicates that the development footprint is underlain by palaeontologically insignificant, metamorphic rocks, capped by equally insignificant, superficial deposits, the latter because the impact area is degraded and not situated near spring or well-developed alluvial deposits. The proposed development may proceed as far as the palaeontological heritage is concerned and no further palaeontological assessments are necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint.

References

Cornell et al. 2006 The Namaqua-Natal Province In: Johnson, M.R, Anhaeusser, C.R. and Thomas, R.J. (Eds.) The geology of South Africa, pp. 325 - 380. Geological Society of South Africa, Johannesburg & the Council for Geoscience, Pretoria.

DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project.



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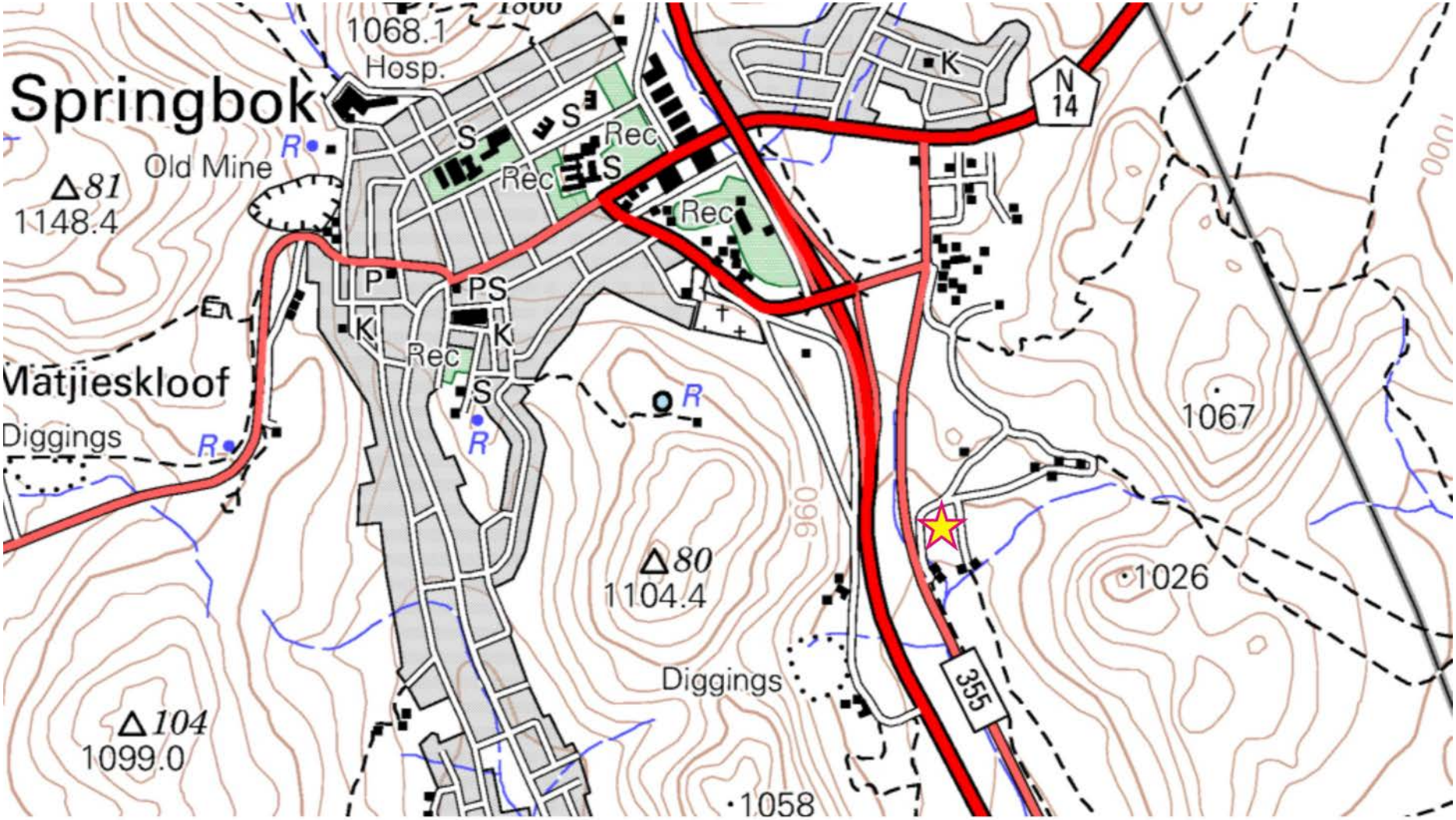

Figure 1. Map of the proposed development footprint (yellow star) marked on portion of 1:50 000 scale topographic 2917 DB.

Figure 2. Aerial view of the study area.

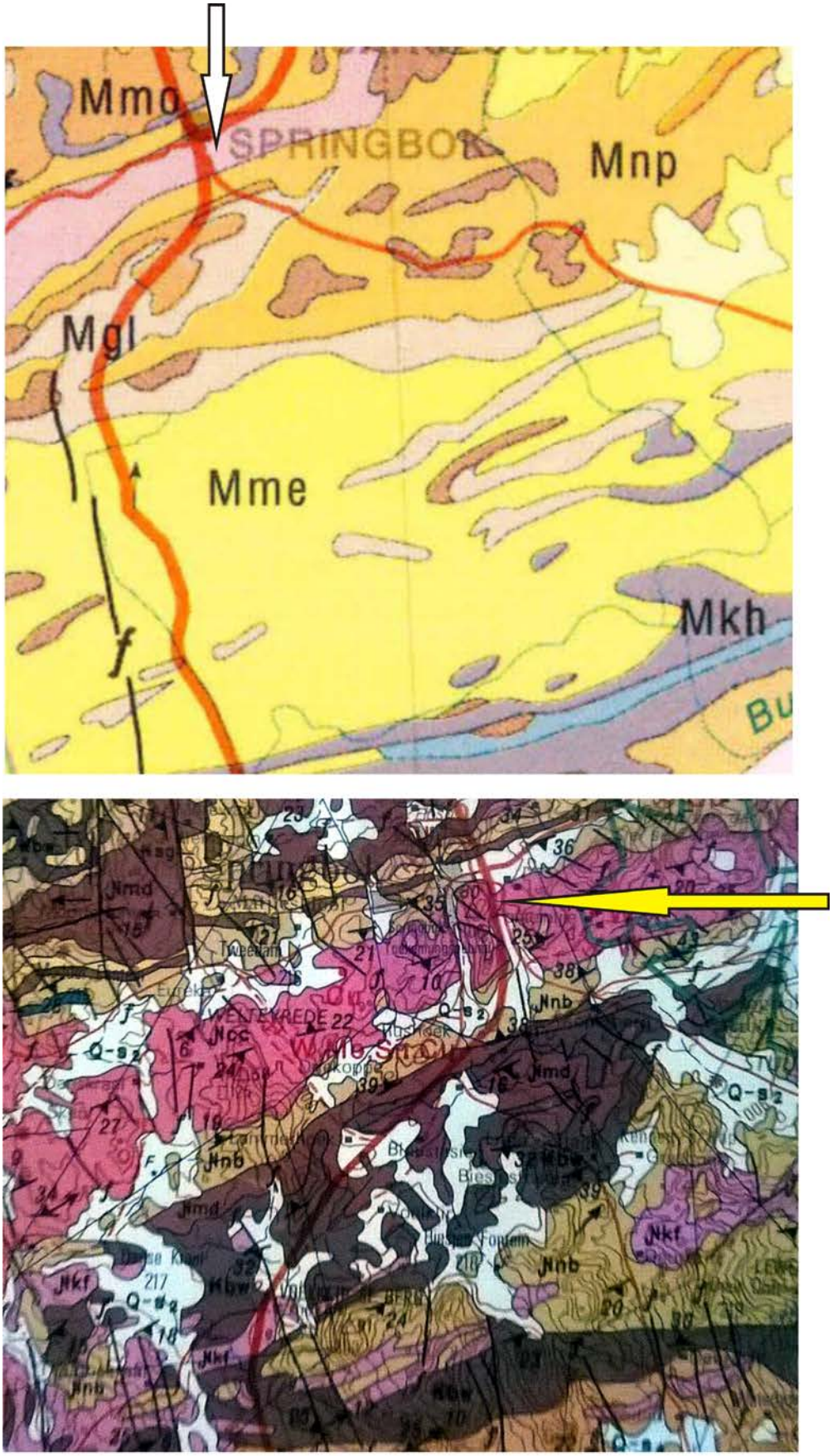

Figure 3. Portions of the 1:1 Ma scale geological map of SA (top) and 1:250 000 scale geological map 2916 Springbok (below) showing the underlying geology of the region, primarily represented by undifferentiated metamorphic rocks.

Figure 4. Leucocratic granite exposures, looking southwest (top).
Scale 1 = 10 cm.

Figure 5. General view of the study area, looking west (above). Unconsolidated, downwasted rubble on top of weathered granite (below).
Scale 1 = 10 cm.