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Dr Ragna Redelstorff
SAHRA
111 Harrington Street
Cape Town 8001

Dear Ragna

RE: Palaeontological Impact assessment for proposed new quarries, Northern Cape Province

On behalf of ACO Associates cc I have completed a desktop Palaeontological Impact assessment for the project and found that there is no possibility of finding fossils in the affected area.

The Little Namaqualand Suite rocks are granite to adamellite and the Eendoorn Granite has augen gneisses. Other volcanic rocks in the area are the pink gneisses of the Hoogoor Suite. Fossils do not occur in igneous rocks such as granites and gneisses because the rocks originate in the molten core and cool when reaching the earth's surface and are further metamorphosed in the case of gneisses. This is not a suitable environment for preserving fossils. Furthermore, only microfossils were present around 2000 – 1000Ma but the organisms did not live such settings. Macrofossils are much younger than this, ca 800 Ma. Along the Orange River and to the south are the alluvial and Aeolian sands of the Quaternary Kalahari sediments but these do not contain fossils either . These however will not be affected by the quarrying as they are not granites.

The extraction of granites and associated hard rocks will, therefore, not impact on any fossil heritage and no further palaeontology impact assessment is required.

Yours faithfully

MKBamford

Prof Marion Bamford
Director: Evolutionary Studies Institute