

Northern Cape Branch
Geological Society of South Africa



NAMAQUALAND DIAMOND CENTENARY POST-CONFERENCE FIELDTRIP

14-20 March 2025



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Post Conference Fieldtrip from Vanrhynsdorp to Oranjemund

The post conference fieldtrip comprises seven days, looking at the alluvial and onshore diamondiferous deposits from Vanrhynsdorp to Oranjemund.

The first day of the fieldtrip will be based out of Vanrhynsdorp, where we will return for the evening of 14th March (overnight accommodation arrangements are for the delegates own responsibility. However, dinner will be provided at the Letsatsi Lodge).

From Saturday (15th) evening to Wednesday (19th) evening, the trip will be based out of Port Nolloth (overnight accommodation is to be organised by the delegates directly). The convoy will leave from the Port Nolloth Country Club (PNCC) every morning. Dinners will be provided at the PNCC each evening. No alcohol will be provided – all bar bills are the responsibility of each delegate and must be settled before departure on 20 March. Lunches and water will be provided each day.

Site visits are planned to various historic and current operations (access will be subject to prevailing circumstances and security arrangements and may change due to unexpected conditions). The provisional programme is:

Friday 14th March

The Quaggas Kop field trip will visit one of the few Knersvlakte gravel terraces; a diamond-bearing deposit that has seen little research. The source(s) of both the gravel and diamonds remain enigmatic and have to date not been adequately explained. The geological and geomorphological setting of the area will be discussed to exemplify the uniqueness of these deposits. Witness sections left behind from past mining operations will also be visited to gain an appreciation of the sedimentology and diamond potential. Additionally, other surrounding sites will be examined to provide some insights into their relationship with the Quaggas Kop deposit to better understand the evolution of the Knersvlakte gravel terraces.

Organiser: Mike de Wit and Renato Spaggiari

Saturday 15th March

Vanrhynsdorp – Knersvlakte – Groen River catchment with alluvial diamond workings at ca.190masl – Garies and the Late Cretaceous “570m” High Stand – Bitter River valley and Spoeg River valley – onto the Namaqualand coastal plain below the “170m” Eocene high stand. Hondeklip Bay northwards to Swartlyntjies River valley and the Koingnaas area, which are the original discovery sites of the quartz-diamond rich, clayey Palaeogene fluvial placers now buried under Neogene marine placers and aeolian deposits of the Namaqualand coastal plain. Koingnaas – Kleinsee – Buffels River valley - Port Nolloth.



The main themes to be covered include: (i) Principal source(s) of the Namaqualand alluvial diamonds; (ii) The Late Cretaceous “570m” and Eocene “170m” high stands and marine placer formation potential; (iii) Fluvial action during the subsequent, long-lived Palaeogene (Oligocene) regression destroying the older marine placers and re-distributing the highly mature diamond-bearing sediments into a bedrock-incised, structurally-controlled, terrestrial drainage network across the Namaqualand coastal plain; (iv) Burial of the Palaeogene basal placers, in places >70m, by fining-upward aggradational sediments as a response to the Neogene (Miocene) “90m” marine high stand, that itself was diamondiferous. (v) The younger, Neogene (Plio-Pleistocene to Holocene) “50m, 30m and <8m” high stands also generated marine placers, that, together with the ubiquitous aeolian sand cover added to the overall thickness of the Cenozoic sedimentary package on the Namaqualand coastal plain.

Organiser: John Ward

Sunday 16th March

The evolution of a State-Owned Alluvial Diamond Mine, from discovery in 1925 to present day. The delegates will have the opportunity to experience the diverse depositional environments for alluvial diamonds along the west coast found within the Alexkor RMC JV property, they will gain insight on how these environments affect concentration of diamonds and mining methods used to exploit this deposit over the last 100 years since its discovery. They will also have the opportunity to see some of the well-preserved historical sites within the property such as the OHMS – the first concrete processing plant along the West Coast.

Organiser: Kabelo Mongalo (Alexkor)

Monday 17th March

Along the lower course of the Buffels River, below the Great Escarpment, is a series of diamondiferous gravel deposits which include the Buffels River Complex (BMC), also known as the Buffels Inland Complex (BIC), Wolfberg, Langhoogte, Dreyers Pan, Bonte Koe, Nuttabooi Grace's Puts operations. Along the lower course of the Buffels River, below the Great Escarpment, is a series of diamondiferous gravel deposits which include the Wolfberg, Langhoogte, Dreyers Pan, Bonte Koe, Nuttabooi Grace's Puts operations. The preferred model is of formation by a mature meandering proto-Buffels River. Traditionally ages of mid Miocene (Proto terraces) and late Plio-Pleistocene (Meso terraces) are attributed to these gravels.

The BRC only occurs below the escarpment, with no remnants of where the river must have been connected to larger rivers upstream. No known diamondiferous kimberlites or alluvial deposits occur in the reaches of the BRC which begs the question of where these diamonds were sourced.

At the Buffels Marine Complex (Kleinsee) diamonds are recovered from a series of Pliocene - Pleistocene raised beaches. Where the bedrock is competent, deep potholes and gullies form in which high concentrations of diamonds have accumulated. A steep-sided channel,



approximately 170m wide, filled with a variety of fluvial sediments occurs in the central area. Pollen and spores indicate an Early Cretaceous age and appears to be a remnant of a more extensive river system (palaeo-Buffels River?) which existed on the coastal plain soon after rifting and the initiation of the South Atlantic Ocean

Organiser: Deon Bowers / William MacDonald

Tuesday 18th March

The diamondiferous gravels of the Lower Orange River have been mined since 1966 and have a high intrinsic value, with the same high proportion of gem quality diamonds as the coastal deposits, but a larger average stone size. Gravels are preserved on both sides of the Orange River in a series of elevated terraces, each distinguished by a marked drop in elevation resulting from a lowering of the erosional base level.

Planned stops on this trip include

- The Lower Orange River (LOR) Diamonds project at Baken Mine.
- Witvoorkop
- Beauvallon operation
- Kortdoorn

Organiser: Kabelo Mongalo (Alexkor)

Wednesday 19th March (Oranjemund)

Since the initial discovery of diamonds in 1908 near Lüderitz the regionally composite Namibian Diamond Mega-Placer has yielded close to 120 million carats of +95% gem quality stones. Most of this diamond production has been recovered from a variety of placer types that range in age from contemporary deposits to those that are some 42 million years old. Diamond Area No.1 hosts four major placer types: fluvial placers, marine placers, deflation placers and aeolian placers. The visit will focus on the onshore mining operations at Namdeb Diamond Corporation that targets the linear, submerged beaches of the marine placer. Mining of these beaches are done through a process of beach accretion, seawall construction and dewatering followed by conventional open pit mining, currently reaching depths of up to -33mbmsl in places and still going.....

Organiser: Gottfried Grobbelaar (Namdeb)

Thursday 20th March

We will visit the Port Nolloth harbour to visit a diamond processing plant and a dive chamber. depending on the weather, we may get to visit a diamond vessel in the harbour

Organiser: Courtenay Cornelissen.

The field trip will then conclude and delegates will travel home (Vanrhynsdorp or their own destination).



Important Notes

- The fieldtrip has a maximum capacity of 40 persons. Book early to avoid disappointment.
- Dinners in Port Nolloth and all packed lunches are included in the field-trip cost.
- All delegates to please bring their own reflective vests and other PPE, where possible.
- We will be visiting three operational mining areas. According to MHS regulations, NO SHORTS may be worn in these areas and proper safety field boots (steel capped) must be worn (no takkies or sandals of any sort). **The organisers take no responsibility if you are refused entry into a mine property for being incorrectly attired.**
- Since there is a cross-border component to the fieldtrip, delegates are reminded that it is their own responsibility to ensure that their passports and/or other international travel documents (where applicable) are in order. Delegates requiring letters of invitation to acquire South African or Namibian visas are requested to request such timeously.
- Delegates are also required to be in possession of a Police Clearance Certificate to obtain a permit to enter the Namibian diamond area.
 - **Delegates must please obtain such Police Clearance Certificate and forward to the organisers by end January 2025.**

Field trip transport

Field trip delegates are reminded that they need to provide their own transport for the duration of the fieldtrip. Four-wheel drive vehicles are not required, although much of the travelling will be on gravel roads. Delegates are advised to share vehicles as far as possible to limit the number of vehicles in the convoy. Secure parking will be available at the Letatsi Lodge for those who will leave their vehicles there for the duration of the fieldtrip.

A limited number of places may be available in one hired vehicle – please contact the organisers directly to enquire of availability and cost.

Fieldtrip accommodation

Accommodation both in Vanrhynsdorp and in Port Nolloth must be arranged by the delegates themselves. A variety of accommodation is available in both towns, catering to all tastes and pockets. See the website for further details.



Weather advisory

The weather along the West Coast in March is warm (daytime temperature 22-30°; nighttime temperature 13-17°) and generally dry. Field-trip participants are advised to ensure that they have sunhats and sunscreen on hand. A warm jacket and/or raincoat is recommended as mornings and evenings can be cool, especially along the coast.

Contact

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**100 YEARS OF THE DISCOVERY OF
THE NAMAQUALAND DIAMONDS**

11-20 MARCH 2025

