

OVERBERG GEOSCIENTISTS GROUP (OGG)

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A megacryst based model for predicting the presence of large irregular Type-II diamonds in kimberlites

by

Dr Andy Moore

On-line presentation - 11h00, Thursday, 17 September, 2026

Zoom link: <https://us02web.zoom.us/j/82172892738?pwd=M1NWUkJFYzhqdTJ2Qk0yZ3BrV2srZz09>

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Dr Andy Moore describes himself as a geological jack of all trades. His reasoning is that this is an inevitable result of chasing after baubles called diamonds, which diverts one from being a so-called specialist into a generalist prospecting the labyrinth of mantle petrography and dynamics, geomorphology and river evolution. Plus, the links between kimberlite magmatism and crustal tectonics and worrying about the origin of the Kalahari sand cover which masks target kimberlites, and some of the world's largest and richest known kimberlite diamond mines, requires a holistic approach to these complexities.

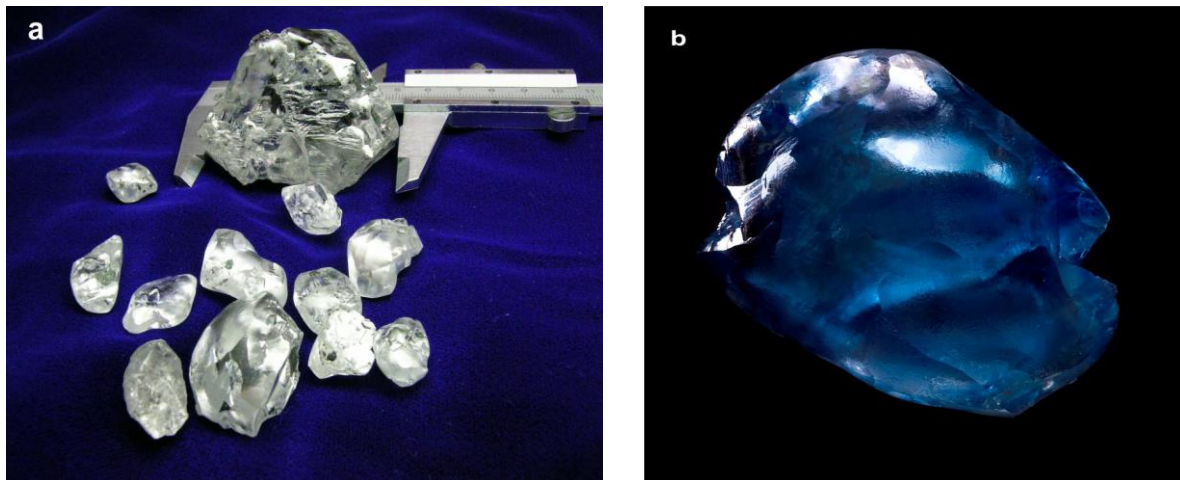


A particular interest has been the origin of large irregular Type II diamonds like the Cullinan, and how to find them. It should be noted that his proposals relating to these rare, valuable stones would be considered by many to tack into the gale of entrenched views. These interests, in-depth and diligent research, backed-up by considerable fieldwork and on-site observations, have resulted in some 60 publications in peer-reviewed journals.

Andy (together with John Baine) was part of the remarkable Falconbridge exploration team (led by the late diamond geologist Chris Jennings) which discovered a number of new kimberlite clusters in Botswana. He subsequently initiated exploration programs which located virgin kimberlite fields in Zimbabwe. None of these proved to be economic however, underlying the wry comment of his under-graduate classmate and later fellow diamond prospector, Wolfgang Marx: "A diamond takes forever to find...."

His kimberlite prospecting, diamonds and geomorphology exploits were interrupted by diversions into a variety of surprisingly inter-linked interests, including a curiosity about genetically linked wetland and savannah habitat preferences in northern Botswana of lion populations. Andy was also part of a team of international scientists which used genetic and geomorphic evidence to propose that the "homeland" to modern humans (*Homo sapiens sapiens*) was centred on the ancient Makgadikgadi palaeo-lake some 200 000 years ago. The findings, published in *Nature* (see reference below), provide a window into the first 100 000 years of modern humans' history, argued that changes in Africa's climate triggered the first human explorations, which initiated the development of humans' genetic, ethnic and cultural diversity (Ref. *Human origins in a southern African palaeo-wetland and first migrations, Nature, 575, pp.185–189 (2019)*)

Examples of exceptional large diamonds that have been the focus of Andy's research activities are shown below, in this case recovered from the famous Letseng diamond mine, in Lesotho. And Cullinan diamond mine near Rayton in RSA



(a): Large irregular Type IIa diamonds from the Letseng kimberlite (Lesotho). Largest stone is the 603cts Lesotho Promise (Image courtesy of Debbie Bowen). (b) 39.19 ct blue Type IIb diamond from the Cullinan kimberlite, South Africa (Images courtesy of Petra Diamonds). (**From:** Moore, A.E. (2026). Type IIa diamonds with Fe-Ni inclusions are not proxies for large irregular Type IIa diamonds. *South African Journal of Science*, 129 (2), pp. 12 [doi:10.25131/sajg.129.2802](https://doi.org/10.25131/sajg.129.2802))



Summary map of Botswana showing the distribution of Kimberlite clusters and diamondiferous kimberlites, including Jwaneng, a producer of exceptional large Type-II diamonds.