

## Irrefutable Detrital Origin of Witwatersrand Gold and Evidence of Eolian Signatures

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### Abstract

Toroidal-shaped gold particles, extracted from a sample of the Basal reef orebody in the Welkom gold field that contained crossbedded gold, have been recognized in thin section, demonstrating that the form in question is not an artifact of extraction but is a genuine detrital form. Similar forms have been recovered in great abundance from an eolian paleosurface in Yakutia and from a recent storm-beach placer in New Zealand, indicating the likelihood that eolian processes produced these forms. This has been confirmed by means of wind-tunnel experiments. Toroids in various states of preservation have been extracted from a number of other Witwatersrand paleoplacers where there is an association with ventifacts, indicating that wind deflation might have played a role in concentrating gold from placer-sand deposits.