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Region’s secrets unearthed

Deur **Benneli Vdwalt** | Donderdag 18 Junie 2015 08:01

PROF. ARI MATMON meticulously gathered samples of the 55 m section of sediment at the Mamatwan Mine near Hotazel. Insert: The sediment layers at the Mamatwan Mine that tells the facinating story of the ancient Kalahari basin. Photos: Supplied

THE Kalahari is well-known for its distinctive red sands and iconic Kameeldoring trees.

Below the surface, however, this unique region holds a scientific treasure trove that recently caused great excitement in global scientific communities.

Prof. Ari Matmon of the Hebrew University of Jerusalem at the Institute of Earth Sciences and his team of dedicated researchers of some of the world’s top scientific and technological institutions

region.

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One would not necessarily associate the Kalahari basin with wet pans that stretch as far as the eye can see, but according to Matmon and his team’s recent discovery, the current dry landscape differs quite a bit from that of 1,1 million years ago.

In 2014 Matmon and his team studied a 55 m-deep section of Kalahari group sediments obtained at the Mamatwan Manganese Mine in the Northern Cape. The research led them to a few fascinating conclusions.

Due to prior insufficient reliable chronological data, the earlier hypothesis had stated that the Kalahari basin sediments had accumulated gradually throughout the Cenozoic era (this era started 65 million years ago and continues to the present day). That hypothesis was shattered by Matmon and his team.

“We have discovered previously-uncovered evidence that blew the old theory out of the water,” Matmon said.

According to Matmon and his team, the majority of the Kalahari basin’s sediments were rapidly emplaced about a million years ago, after which the basin filled to its present level and established the Kalahari sand belts, where the savannah now flourishes.

Before this rapid emplacement, however – this the sedimentology measurements from the lower section of the Mamatwan sample revealed – during the early to middle Pleistocene era (this era started two million years ago and ended 10 000 years ago) the Kalahari – basin had been covered by an extensive body of water. This water body would have resembled swampy areas like current wetlands or pans.

These immense water pans existed about 420 000 years before the rapid change in the Kalahari sediments.

Matmon and his team’s data suggested that the Kalahari had been a dynamic landscape, with punctuated cycles of erosion and deposition which occurs when an area is covered in wet pans, in contrast to the now defunct hypothesis of a stable basin filling slowly throughout the Cenozoic era.

This historic discovery tied in with the current anthropological research done near Kathu by Prof. Micheal Chazan of the University of Toronto. His excavations that unearthed many anthropological artefacts prove that there had been a relatively large hominine (species that resembles human characteristics) living among these massive water pans in Southern Africa.

Matmon, his team and Chazan forever changed the prehistoric view of the Kalahari basin. Although currently the Kalahari seems arid at times, the modern human’s ancestors survived millions of years ago thanks to the generous water pans of the Pleistocene era