

# MEDIA RELEASE

NEWS FROM THE UNIVERSITY OF TASMANIA

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ATTENTION: Chiefs of Staff, News Directors

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## Volcanic ‘host’ of diamonds discovered in Antarctica

A team of former and current University of Tasmania researchers has discovered the first known occurrence in Antarctica of kimberlite, a volcanic rock which is best known as a major host of diamonds.

The discovery by the team, which includes Professor Vadim Kamenetsky, from the University of Tasmania’s School of Earth Sciences and the ARC Centre of Excellence in Ore Deposits based at UTAS, is reported by *Nature Communications* today.

As outlined in the paper, *Discovery of Antarctic kimberlites extends vast Gondwanan Cretaceous province*, kimberlites are known on all continents except, until now, the southernmost one.

“Kimberlites are of great scientific and commercial importance, as the most deeply derived, direct samples of the Earth’s deep interior, and as the major hosts of diamond (sometimes in economic abundances),” explains chief investigator Dr Greg Yaxley, a UTAS alumnus now at the Australian National University.

“However, until now, they have been completely unknown from Antarctica presumably reflecting the extensive ice cover, remoteness and harsh climatic conditions for geological mapping.”

Prof Kamenetsky said that the team had discovered the eruption of kimberlites in the northern Prince Charles Mountains of Antarctica. “Robust dating of the samples demonstrates that they are part of an approximately 120 million-year-old episode of kimberlite volcanism that occurred over a vast area.”

The discovery is of outstanding scientific importance for an additional reason. They are located at the margin of a major Antarctic transcontinental rift, the Lambert Graben, which was reactivated during separation of the Indian and Australia-Antarctica plates during the Cretaceous period.

“The kimberlites are a direct magmatic expression of this reactivation and therefore a direct manifestation of continental-scale tectonic processes,” Dr Yaxley said.

Profs Yaxley and Kamenetsky have collaborated and jointly supervised students for the past 19 years. The third author of the paper, Dr Geoff Nichols from Macquarie University, is also a UTAS graduate. All three studied here under the then Head of the Geology Department, Prof David H. Green.

Read the

paper: <http://www.nature.com/ncomms/2013/131217/ncomms3921/full/ncomms3921.html>

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