PSEUDOTACHYLITE BRECCIA OF THE MUSGRAVE PROVINCE, AUSTRALIA

Daniel Connelly
MAPCIS Research Project. Email: danielconnelly@comcast.net

Abstract
Pseudotachylite breccia from disparate locations in the Musgrave Province were collected for study. The expedition team liked to locations 40km, 50km and 100km from a proposed impact site, known as MAPCIS, and collected 7kg of samples that contain pseudotachylite breccia. The samples were initially sliced in Cooler Pand and Adelie and were later verified as pseudotachylite breccia, both by Atoll Ltd. and Applied Petrographic Service Inc. We attempted to put these pseudotachylite breccia into context of a possible impact and compare the petrography to pseudotachylite breccia of the Vredefort structure, South Africa. Although pseudotachylite breccia in central Australia are not rare and are contained within the largest known deposits on Earth, they are relatively unknown and unexploited. Portions of these samples were donated to the Australian Museum, Sydney, the South Australian Museum, Adelaide, and the Queens University, Brisbane. These samples were from the first of their kind in museum collections to stimulate further research. These samples will go to work to more precise dating of the pseudotachylite breccia.

Introduction
This is the fifth year since the rediscovery of the ring structure initially known as CAR, Central Australian Ring and is now associated with MAPCIS, Massive Australian Precambrian/Cambrian Impact Structure. Seven oral or poster presentations on diverse aspects of MAPCIS were given,culminating with the most recent at the 34th IGC in Brisbane. There are three associated published papers with Chinese geologists. Although MAPCIS is well-established in its way, the journey from discovery of initial evidence to confirmation at a structure as an impact usually takes 10 to 30 years. Besides collecting evidence and presenting it, the most important thing I can do is to raise awareness of MAPCIS so that others may add their expertise.

Objectives
1. To collect samples of pseudotachylite from representative formations in the Musgravas with the highest possible distance between samples.
2. To collect sufficient quantities for future research and dissemination of samples to other researchers.
3. To visually define the area.
4. To get these samples dated. (40Ar/39Ar)

Discussion
The name of this research is obident to each region with each discovery coming within the parameters of the impact site. The target of the MAPCIS site is not yet clearly defined as it it is not yet known how far away the impact may have taken place. This is a new area to study and may help to resolve some of the mysteries of the Central Australian Ring.

References
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Berkeley CA 94710
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