

Media Release

Chiefs of Staff, News Directors

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Prehistoric minerals from Tasmania's oldest rocks establish western North America and Tasmania were once neighbours

New research from the University of Tasmania and Mineral Resources Tasmania has established a close prehistoric connection between Tasmania and western North America, places now located on opposite sides of the globe.

By analysing ancient minerals, the researchers Dr Jacqueline Halpin and Dr Peter McGoldrick (from CODES, the University's ARC Centre of Excellence in Ore Deposits), have compelling evidence that western North America was once our close geographical neighbor.

The research was published recently in the international journal *Precambrian Research*.

The team age dated tiny minerals "monazite" and "zircon", found in sedimentary rocks from the Rocky Cape Group in North West Tasmania. They found that these rocks were deposited in an ancient ocean between 1.45 and 1.33 billion years ago, making them the oldest rocks in Tasmania.

Dr Halpin said the patterns of ages in the Rocky Cape Group strongly resemble those in sedimentary rocks from Montana, Idaho and southern British Columbia (the "Belt-Purcell Supergroup" rocks), which is a strong genetic fingerprint and evidence that the Rocky Cape and the Belt-Purcell rocks were geographically close 1.4 billion years ago.

"At this time, both Tasmania and North America were part of a supercontinent called Nuna," Dr Halpin said.

"As plate tectonics and the supercontinent cycle started to rift Nuna apart, a large sedimentary basin formed that included the Rocky Cape Group and Belt-Purcell Supergroup rocks."

The continued breakup of Nuna eventually dispersed parts of this ancient sedimentary basin to opposite sides of the Earth.

There was another discovery too.

Dr McGoldrick said the new mineral dates also provide an age constraint for the Horodyskia (“string of beads”) fossils recently discovered in the Rocky Cape Group. These fossils have also previously been found in the Belt-Purcell rocks.

“Fossils visible to the naked eye are exceedingly rare from rocks older than 635 million years.

Horodyskia from the Rocky Cape Group and the Belt-Purcell Basin are nearly twice this age.”

From an evolutionary viewpoint, Horodyskia are exceedingly important.

“Unlike stromatolites, which are formed by communities of simple, single-celled organisms, Horodyskia may represent the oldest known ‘tissue-grade’ multi-cellular organism.”

To read the full paper, please visit: <http://authors.elsevier.com/a/1PH~g14fdGVoha>

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