

## What is Australia print stone?

By Donald Kasper 11-19-2017

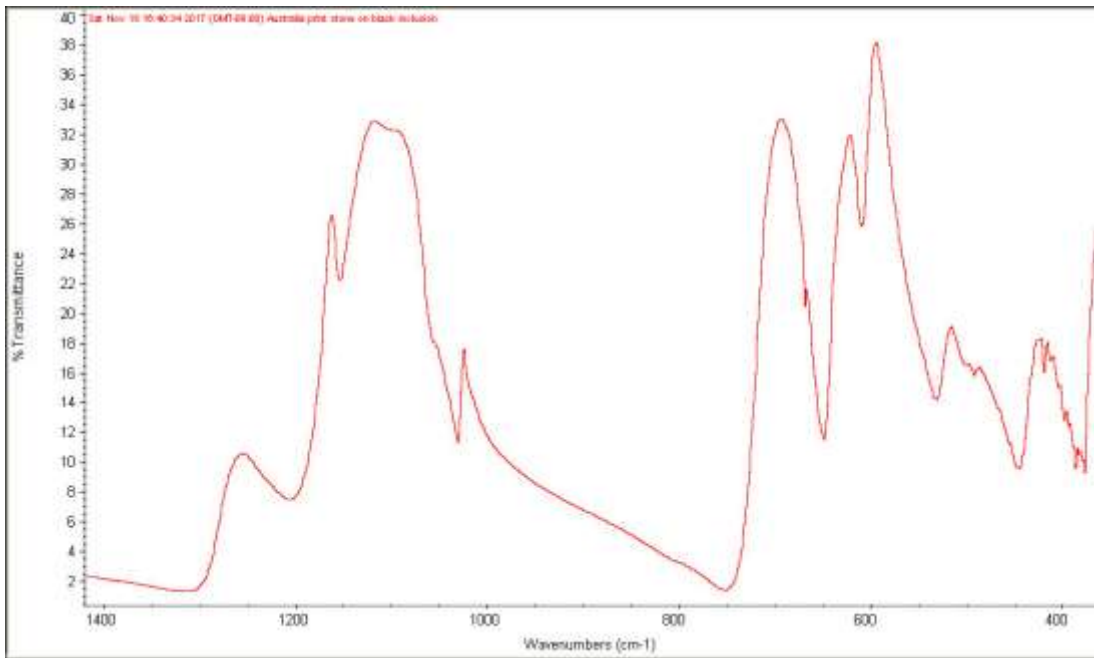
According to the mindat web site: "Printstone is a siltstone found in the Mount McRae shale formation. Age is approx. 2000 Ma. Some studies indicate that the unusual markings possibly have stromatolitic origins, even going so far as naming it as "Kinneyia Simulans", however the local specimen miner suggests they are just liesegang rings."

This statement is total garbage where additional leading text refers to non-existent reports on print stones composition. Obviously, the speculation in the literature don't know that SO<sub>2</sub> creates sulfuric acid, incompatible with stromatolite systems or other life, and as such they are ignorant analyses without scientific evidence, just collecting and guessing. The local miner has the best analysis.

Infrared spectroscopy shows print stone is quartz, beta-cristobalite, alumino-celadonite, dickite (a polymorph of kaolinite), and alunite. The banding and black blebs are alunite. Aim on one black bleb in a specimen of the author is pure alunite. This is a triple-junction geochemical join of silica-kaolinite-alunite that is well documented in the literature. The picture of the specimen scanned is shown below, along with the scan of the black alunite bleb. This represents sulfur dioxide intrusion in fluids causing sulfuric acid breakdown of the rock, so-called alunitization. It has nothing remotely to do with stromatolites.



Close-up of Australia print stone, an alunitized volcanic tuff. The black bleb and colored striping are from alunite migration. Alumino-celadonite showing volcanic tuff origin. The strata are horizontal tuff layers, shown best at the bottom. The bands are alunite Liesegang bands.



Reflectance infrared graph of alunite on the black bleb shown in the photo above.