# Helga Groves:
# Lithic Elements (Pilbara Series)

The work in this exhibition came about through an invitation extended by Darren Dougan, director of the Big Questions Institute, to artist Helga Groves. Dougan knew of Groves' keen interest in stromatolites, ancient life forms whose fossilized remains are found in various locations around the world.

At Dougan's invitation Groves joined an expedition to the Pilbara in August 2022 led by University of New South Wales geologist and astrobiologist, Professor Martin Van Kranendonk. The Pilbara is home to the oldest rocks on earth and rich in fossilized stromatolites, evidence of the planet's first photosynthesizers. Comprising bacterial communities that grew in a microbial mat, stromatolites were formed by layered deposits of sand and calcium carbonate. The photosynthetic action of these "growing stones" transformed earth's atmosphere by dramatically increasing the amount of available oxygen, enabling more complex life forms to evolve. As the most ancient, best-preserved signs of life on earth, stromatolites are of tremendous interest to scientists studying the origins of earthly life as well as the possibility of life elsewhere in the universe.

In her work prompted by the Pilbara expedition, Groves notes the broad extent of the fossilized stromatolites in the Pilbara along with their varying ages across the vastness of geological time.

Groves recalls the expedition quite specifically in collages of pigment prints on acetate and map pins. *Field Map #1 (Pilbara Series)* and *Field Map #2 (Pilbara Series)*, show a range of fossilized Pilbara stromatolites of different ages. The Field Maps acknowledge the personal map of stromatolite locations made by Professor Van Kranendonk, repeating the overlapping format of such guides. The metallic pins used—their colours blending with the prints' Pilbara tones--are tactile reminders of how the maps are made and used in the field while the pins' durable materiality recalls the minerals contained within the region's fossils. The translucent pigment prints overlap each other on their horizontal and vertical edges so that the topographical lines or patterns in the images of the fossilized stromatolites appear to unite with or flow into the next image, suggesting an interconnected terrain of very distant time.

*Micro Universe (Pilbara Series) #1* and *Micro Universe (Pilbara Series) #2*, both collages of pigment prints on acetate, use photomicrographs of highly magnified, ultra-fine slices taken from fossilized stromatolites, revealing the unique fine-scale textures, composition and mineral elements within the fossil layers. In these collages of overlapping prints Groves creates a central band of blended darker tones and patterns, an effect suggesting the universe's deep space and deep time, a macrocosmic view playing off the microcosmic detail of the prints themselves. Although the pins here appear camouflaged by the prints, their subtle reveal at different angles indicates the fossils' mineral elements.

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*Field Map Study (Pilbara Series)* shows sections of fossilized stromatolites and *Shaped by Water (Pilbara Series)* shows details of Banded Iron Formation rock which was found in Western Australia's Karijini National Park and formed as a result of the oxygenation of the earth's oceans some 240 million years ago. As in *Micro Universe (Pilbara Series) #1* and *#2*, and despite what looks like their photographic verisimilitude, the collages are animated by questions of scale and orientation: what is it we see—an aerial view, a cross section, a micro or a macro view?

– Ingrid Periz, 2023

*This is an excerpt from the original essay written by Ingrid Periz about the larger Pilbara Series - for the inaugural exhibition by Helga Groves held at STEAMM Studios in Brisbane, hosted by the Big Questions Institute in 2023.