In the beginning…

From Nullagine to Marble Bar to Port Hedland, the expedition continues.

Areas of study around Marble Bar included examining clays just below the Iron stone capping of a mesa. Dr Rosalba Bonaccorsi (NASA Ames) and Dr Simon George (Macquarie University) collected some samples from sites in similar horizontal positions along the rock face.

The idea was to find evidence of biological activity at different points, where there are differing levels of moisture. Tests were run on the collected samples back in the Port Hedland Laboratory (Caravan Park laundry) to identify levels of ATP (The Adenosine Triphosphate test is a process of rapidly measuring growing microorganisms through the detection of ATP, which exists in and around living cells). From these activities, some preliminary findings show that the wetter the location the lower the amount of detected microbial activity.

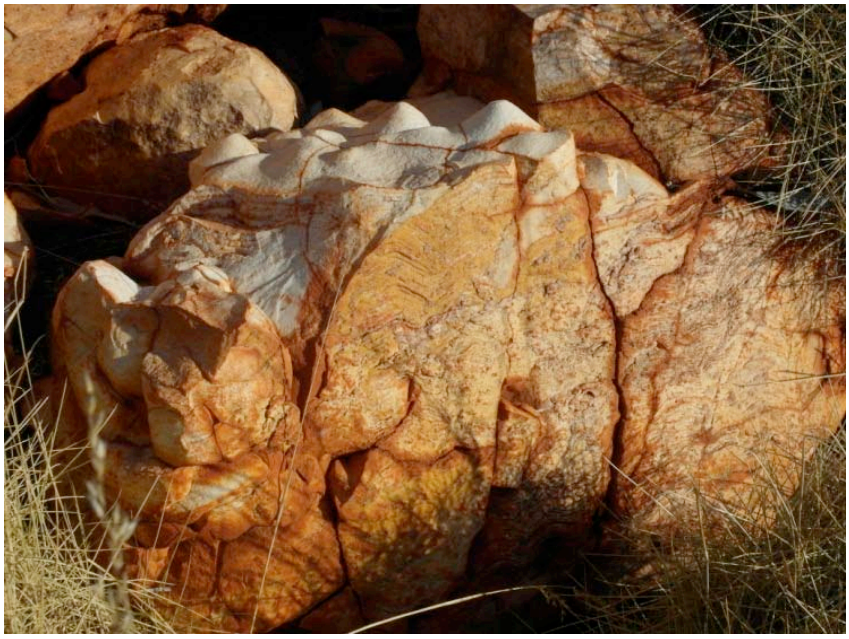
Thrown into today was a visit to an interesting location between Marble Bar and Port Hedland. Marble Bar of course being famous internationally as the town that has the most consecutive days with a maximum temperature above the old 100 (37.8 Celsius), which is actually an incredible 160, set back in the summer of 1922/23.

Not quite that hot today, but after many kilometres along low-range dirt and rock tracks, we found ourselves at the North Pole, not the traditional Lapland winter wonderland, but more a dry desert-like geologists paradise. Discussions a plenty about the source of the name, nothing to do with an ancient magnetic alignment, but probably more to do with the extreme opposite conditions we decided, especially when in the locality is also Antarctic Creek.

Even after a long walk (What else would you really prefer to do on a Friday?), it was incredibly exciting to be standing around the formations that are the oldest known fossilised records on the Earth. It really was an experience, that can't quite be put into words, that when you are standing about the remains of the earliest life on Earth, critters that started it all for all life, and we are here to see and understand them some 3.4 billion years later… amazing, simply amazing!

As Chris McKay said, “He’s waited 30 years to be here and do this”, the fossilised stromatolites have waited a lot longer, what could they reveal if they could talk, I guess this is really what it is about to investigate the story and put the puzzle pieces together.

Examining clear indicators for biological activity in rock faces, areas that highlight different levels of growth and particularly dome or conical patterns is of importance to a number of the scientists involved. Looking at other locations around the world to broaden our knowledge and then on Mars, being able to look at rock faces and identify the right types of rock, then be able to interpret the subtle differences between sedimentation and biological action will be crucial to identify examples of ancient life off-world. For a number of the team, it was a struggle-the location, the conditions, the positioning, the identification process.



What needs to be remembered is that this will all be done in upcoming missions by rovers and scientists at terminals working remotely. The inevitable way to improve our identification procedures to get to answer the big questions will be to go there ourselves, just as well we are doing space suit tests… still a long way to go, but every step takes you one closer to your final destination-the red planet of course.