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## **“Remarkable rock art” defies nature and heavy industry**

The world’s largest gallery of rock art engravings on the Burrup Peninsula has shown relatively minor signs of ‘wear and tear’ despite being thousands of years old and surrounded by industry.

The first detailed study of natural weathering and erosion of the unique rock art surfaces in north-western Australia has found long-term erosion rates – typically less than one millimetre every 1,000 years on rock surfaces associated with the art – to be among the lowest measured erosion rates anywhere in the world.

Professor Brad Pillans, Research School of Earth Sciences at The Australian National University said results from this and ongoing studies, partly funded by Woodside Energy, would be used to assist in the long-term management and conservation of the rock art sites.

The heritage-listed Burrup Peninsula and surrounding Dampier Archipelago near Karratha is home to up to one million rock art images, which have been described as being among the richest expressions of pre-literature human history in the world.

The *Australian Earth Sciences Convention* in Canberra has heard the remarkable rock art preservation has been attributed to the density of rock – similar in composition to granite – as well as a hard, surface coating of resistant iron oxides and very low rainfall in the region.

“The rocks have not only proven to be largely impervious to nature, but also now appear to be withstanding the effect of nearby heavy industry,” said Professor Pillans.

“The rock art has continued to be closely monitored due to its considerable cultural and archaeological significance and its close proximity to major industrial development associated with the port of Dampier,” he added.

The industrial development includes the Woodside Liquefied Natural Gas plant, an ammonia plant, the Rio Tinto iron ore terminal and the Dampier salt mine.

A recently completed five-year monitoring project by CSIRO and funded by the Western Australian Government, found no evidence that emissions from nearby industries had caused damage to the rock art to date, according to CSIRO’s research stream leader, Dr Erick Ramanaidou.

Dr Ramanaidou told the conference that scientists had monitored a range of key air pollutants at the site. They found that dust from the industrial site was consistent with iron ore dust, but that dust collected from the rock art was consistent with local soil-derived dust and sea salt.

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“Scientists used a number of techniques to establish whether any changes in colour contrast, mineralogy or chemical composition on the surface of the rock art had taken place over the five year monitoring period,” Dr Ramanaidou said.

“No perceptible change in any of these criteria was noted from nearly 2,500 measurements,” he added.

Scientists from CSIRO were continuing to monitor any potential further changes.

## **ENDS**

*Note to editors* – the CSIRO monitoring project received guidance from the Burrup Rock Art Monitoring Management Committee. CSIRO staff from three divisions were involved - Atmospheric Research, Material Science & Engineering, and Earth Science and Resource Engineering.

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***Issued on behalf of the Geological Society of Australia by Connection Communications. For further information or to arrange an interview with Prof Brad Pillans or Dr Erick Ramanaidou, please call Maria Padua on 0419 200 935.***