

Ms Christine McDonald  
Committee Secretary  
Senate Environment and Communications References Committee - Burrup  
Parliament House, Canberra, ACT, 2600

## **Inquiry into the protection of Aboriginal rock art of the Burrup Peninsula**

### **Supplementary Submission by Dr Ken Mulvaney**

Having listened to individuals speak on behalf of organisations and to read their explanations for either doing or not doing certain things in relation to questions on notice concerning protection of the Dampier Archipelago (including Burrup Peninsula) National Heritage Place; leaving me with some disquiet, I felt compelled to write myself. These matters fall under to main issues, the first being;

#### *Appropriateness/relevance of experiments in regard to Dampier rock art*

CSIRO stated through Dr Cleugh that they are committed to full and transparent participation in the scientific peer review process, yet they still will not disclose who were utilised as the expert peer reviewers to the 2004-2009 studies; claiming, as with many things, that their contract with the WA government controls this information. To know what particular expertise these people hold and exactly what they reviewed is critical to being able, as a non-expert, to assess the validity of the CSIRO claims especially if the expertise is in types of experiments rather than rock art and chemical effects on rock surfaces. This lack of openness and transparency raises suspicion over there being valid scientific results, especially in regard to rock art protection.

I also note that when questioned on the validity and appropriateness of the CSIRO studies conducted, they fell back on the statement that it was conducted to the parameters of the WA Government contract. This can hardly be regarded as a study conducted to the best scientific endeavours.

What is missing from any of the investigation is the fact that the engraved surface and rock panel (support/surrounding) surface are likely to be difference, certainly their visual physical condition are not the same. None of the studies conducted so far have actually targeted the specific situation of the rock art in relation to physical and chemical alteration and susceptibility to emissions loads. We just don't have information that is pertinent to the petroglyphs.

CSIRO state that the use of iron ore is a suitable proxy to investigate discolouration as it contains a similar mineralogical profile to the rock patina (major composition is hematite with minor goethite, quartz and kaolinite)". Iron ore is certainly not an ideal rock to use as a proxy for gabbro or granophyre, although there may be some merit in that the fumigation test is looking at surficial material only. However, given the national importance of the rock art, there is enough of a doubt about its suitability to have warranted tests on real Burrup rocks, which should have been done in the original studies.

It was stated by Dr Ramanaidou that further study had been conducted on a sample of Burrup rock and that a report/paper will shortly be released. Contra to statements made, this important research document had not been made public, thus assessment of its scientific value or application to understanding the physical condition of the rock art or potential of harm from industrial emissions is unavailable. For example; it was declared that the experiments are being conducted on "little cylinders of rocks"; if these are on the unaltered interior rock and not on the altered, weathered crust, then they are testing a physically and chemically different regime than to which the petroglyphs occur.

*Compliance conditions relating to Yara EPBC 2008/4546 Approval*

In my original submission I stated that Yara had not met obligations in regard to condition 8 d (Approval dated 14/09/2011), and that despite two subsequent variations to conditions attached to approval, the fundamental requirement for survey and comment on the physical presence and condition of the rock art within a two kilometre radius of the plant remains. The evidence provided by the Department of Environment and Energy (DoEE ) indicates that the intent is only to align with the WA State managed colour contrast and spectral mineralogy monitoring programme, although there is contradiction and confusion in evidence presented by the various staff. In fact Mr Cahill went on to say that in regard to condition 10 c.i (18/12/2013 variation), this requires survey of rock art sites within the two kilometre radius. This statement confirms what I had asserted in my original submission.

Yet, this understanding of the DoEE is not how Yara have interpreted their obligations, nor in fact have the DoEE taken any action to enforce this condition; a situation that weakens rather than strengthens the protection of the nationally significant rock art. In fact, at their own admission (response # 12 to QoN) they state that DoEE has not determined there is a breach by Yara of condition 10 ci. Given the contrary statements made by staff at the hearing, I would ask on what basis and by whom was this determination made. Certainly, without this baseline study of the petroglyphs there is no means to gauge impacts or change to the rock art across the National Heritage Place.

Yara Pilbara has engaged in the WA State managed monitoring programme regarding colour and surface mineralogy (condition 10 cii; 18/12/2013 variation). There was discussion about six monitoring sites within the 2km radius; three were already part of the long term BRATWG monitoring programme, with an additional three include from 2014 into the annual measuring procedure. What was not made clear is that these "six sites" involve just the data collection on six petroglyphs; hardly a statistically suitable or representative sample to ensure the protection of the values of the National Heritage Place.

In regard to condition 10 ci (18/12/2013 variation; 8 di 14/09/2011approval) relating to a suitably qualified heritage monitor (response # 13 to QoN) the DoEE approved Heritage monitor has neither the experience nor skills to provide advice on cultural values of rock art sites.

In this matter, a sympathetic reading of this would be that DoEE compliance staff are complicit in a negligent action; more seriously it is an abrogation of their responsibilities to ensure the protection of the values of this National Heritage Place.

To reiterate, what is required is the conducting of surface susceptibility studies on rocks and rock marks that replicate the physical and chemical conditions of the Dampier petroglyphs, and accurately assesses the vulnerability to industrial emission loads. It is also incumbent on DoEE to do their job, ensure compliance with approval conditions and not kowtow to industry. What is at stake are the petroglyphs of the Dampier Archipelago National Heritage.

Yours sincerely  
Dr Ken Mulvaney