

31 August 2017

Hydraulic Fracturing Task Force  
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**Re: Response to the Interim Report of the  
Scientific Inquiry into Hydraulic Fracturing in the Northern Territory.**

**Attention: The Honourable Justice Rachel Pepper and Panel Members,**

Dear Panel Members

I thank the Panel for the opportunity to comment on the Inquiry's Interim Report.

Blue Energy's comments are by necessity brief and not exhaustive, given that others from industry are better equipped and resourced to address the detail in the Interim Report.

As referenced in our previous submission to the Inquiry (29 April 2017), Blue Energy is an upstream exploration operator with oil and gas tenements in the Northern Territory (NT) and Queensland. Blue Energy has Coal Seam Gas reserves in Queensland and is an experienced operator with deep oil and gas industry understanding.

In its research undertaken to date, I trust the Panel has identified (and verified) actual and specific environmental and aquifer damage that has been caused by the unconventional gas industry globally and in particular, damage claimed to have been caused by the Hydraulic Fracture Stimulation process (HFS). This will be critical to form a baseline for the risk assessment process, the quantification of probability and consequence of each of the risks identified by the Panel, and for the identification of inadequacies in existing Regulations covering the oil and gas industry in the NT.

It would be useful as part of the Panel's Final Report to include these specific instances of actual environmental damage to aquifers in detail, so that the Panel's recommendations to Regulators ensures specific and targeted safeguards can be put in place through regulation, should the moratorium be lifted.

I make the following brief and general observations (in no particular order);

- Based on the list of risks identified in the Interim Report, the Panel has the ability to curtail the onshore shale gas industry before it has an opportunity to get started. This would result from recommendations from the Panel for prescriptive and/or excessive regulation of the sector to mitigate the perceived risks outlined in Appendix 1 of the Interim Report, possibly without due consideration of each risks' likelihood or consequence. It is worth re-iterating that almost all the prospective geological targets for oil and gas in the NT are of a geological age that precludes good permeability (ie all the rocks are basically "tight reservoirs) and as such will all need to be subjected to HFS to be economic.

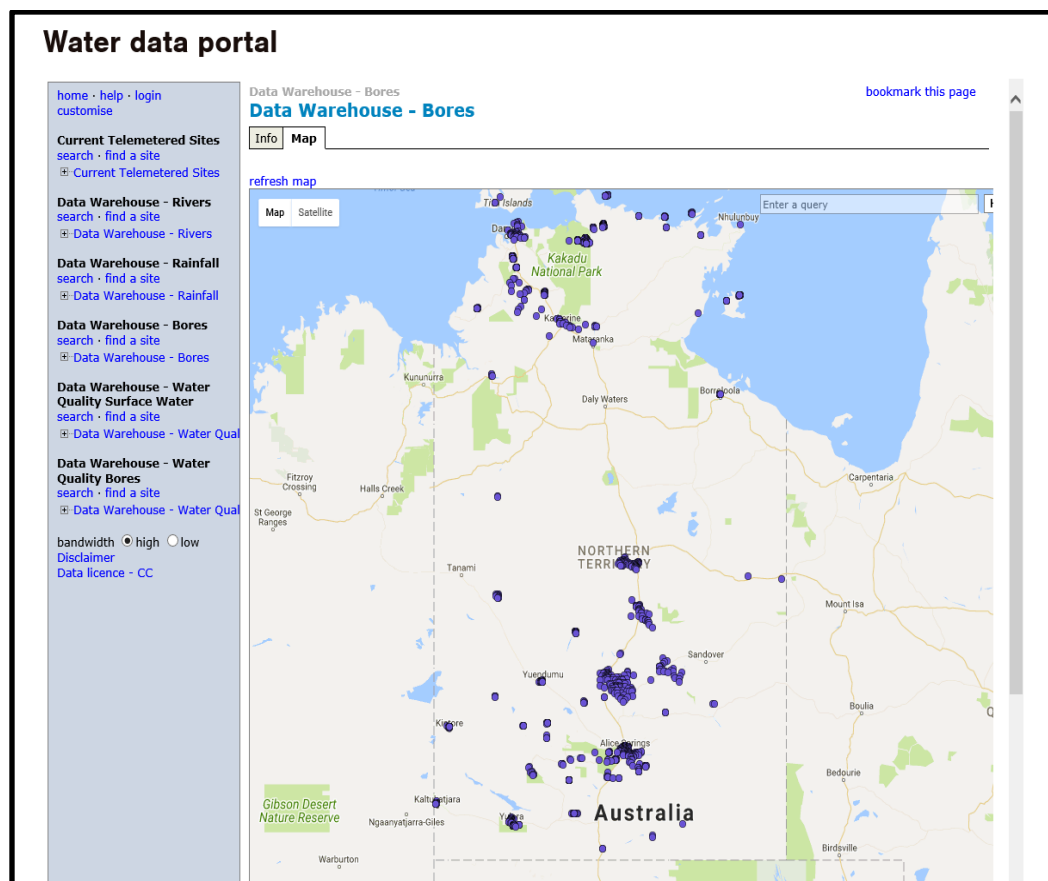
- A further perusal of the identified risks in the Interim Report (Appendix 1) shows that many of these risks can be equally applied to other industries. I therefore trust that the Panel will recommend that Government look to mitigate these same risks in these other industries to ensure a consistent approach for environment protection is applied across the Northern Territory. For instance, 1) the significant withdrawal of water volumes from existing aquifers by the agricultural sector. I trust the same risk assessments and potential make good provisions would be required of the Agricultural sector. A gauge of the impact caused to the aquifers in Queensland by excessive withdrawal by agriculture can be seen in Figures 1 and 2 which depicts the massive number of registered agricultural water bores and the contrast to the NT registered bore density. I suspect however, that the NT Government has inaccurate data regarding the actual number of water bores in use in the NT – yet the gas industry is depicted as the enemy of the regional aquifer and will be required to undertake baseline aquifer studies to provide data that the Government should have been acquiring for decades. The intensity and aquifer depletion and contamination from the “water mining” by the agriculture sector is never questioned or monitored – Government simply do not ask for data or impose standards for water bore construction 2) Methane emissions from the cattle industry – I trust that a similar risk assessment of the GHG emissions from Cattle industry activity, together with surface pollution and runoff effects from this industry will be addressed by Government 3) Emissions from diesel usage in the Tourist and Agricultural sectors should also be assessed in a consistent manner to that which is contemplated for the gas industry. It would be instructive for the other industries to have to adhere to the many regulations covering the gas industry, given many common risk elements. The gas industry however is often singled out for special treatment.
- To assume the major beneficial use of gas is electricity generation (through the displacement of coal), is to limit the potential value add that enhanced gas production could bring to the NT. This is something the economic analysis commissioned by the Inquiry should address as part of its remit. The development of a larger and more vibrant onshore gas industry in the NT should lead the NT to develop a substantial petrochemical industry in Darwin. This would add 20-fold to the value of the produced natural gas molecule at the wellhead. It would further diversify the NT economy and provide opportunity for tertiary industry development and a huge multiplier effect to job creation and potentially break the cycle of GST dependence in the NT. It would also generate an export opportunity to SE Asia for value added products such as Plastics (3D printing consumables), Polypropylene, Ethylene, and Methanol to name a few. Therefore, I urge the Panel to look deeper into the uses of gas in its economic analysis of an expanded gas sector in the NT.

- I trust that in the community consultation processes the Panel has undertaken to identify the many uses that petroleum derived products bring to the residents of both remote and urban communities in the Northern Territory. Whilst the setting of the attached video link may be viewed as incongruous to many remote community residents, I would argue that many of the items shown in this video are an important part of everyday life, for all, yet they are taken for granted. It is instructive to contemplate that if those wanting to ban the gas/oil industry in the NT, were prepared to go without these basic amenities, the opposition to the gas industry may not be as ideologically charged. There is no mention in the risk assessment of the Interim Report of the forgoing of such amenities if there were no gas industry. The following is a link to a short video: Life without Petroleum video <https://www.youtube.com/watch?v=cc4e3Zy0clk>
- The assertion that fugitive emissions from this yet to be established industry are of concern, fails to acknowledge comments by Dr Allan Finkel (Australia's Chief Scientist) that reducing Australia's GHG emissions to zero will make no difference at all to the global climate (Comment made by Dr Finkel to a Senate hearing in 2017).
- It is not logical to limit the environmental concerns of HFS to Shale Gas activities alone in the NT. The Government and Central Land Council have been benefitting from production royalties from Palm Valley and Mereenie Oil and Gas Fields for decades (loss of these royalties would have significant social and economic impact), where HFS is a standard production enhancement technique (the Pacoota Sandstone is a tight gas reservoir), and, as the Panel would know, the Pacoota zones directly fracture stimulated in these fields are in fact aquifers, by definition. So here is a situation where it is permitted that HFS Fluids are injected directly into an aquifer, yet HFS is banned from being undertaken in shale sequences which are not aquifers and which are vertically isolated from any proximal aquifers. This inconsistency is troubling, and does not reflect well on the definition of the scope for the Inquiry. In addition, the Palm Valley Gas field has been subject to hypersaline brine re-injection over a decade or more, and presumably the Government has solid data from these fields regarding any crossflow contamination of aquifers from the injection of these hypersaline brines together with any evidence of a resultant increase in seismicity from this practice. I look forward to the documentation of these results in the Panel's Final Report. I also note there is no attempt to link mining operations in the Tennant Creek area with known earthquake history in that region.

- Given HFS has been in use in the NT since the 1980's has there been any environmental damage caused in the Palm Valley and Mereenie operations as a result of Hydraulic Fracture Stimulation or as a result of inadequate Regulatory controls? This is an important bench mark to establish before more prescriptive regulation is envisaged.

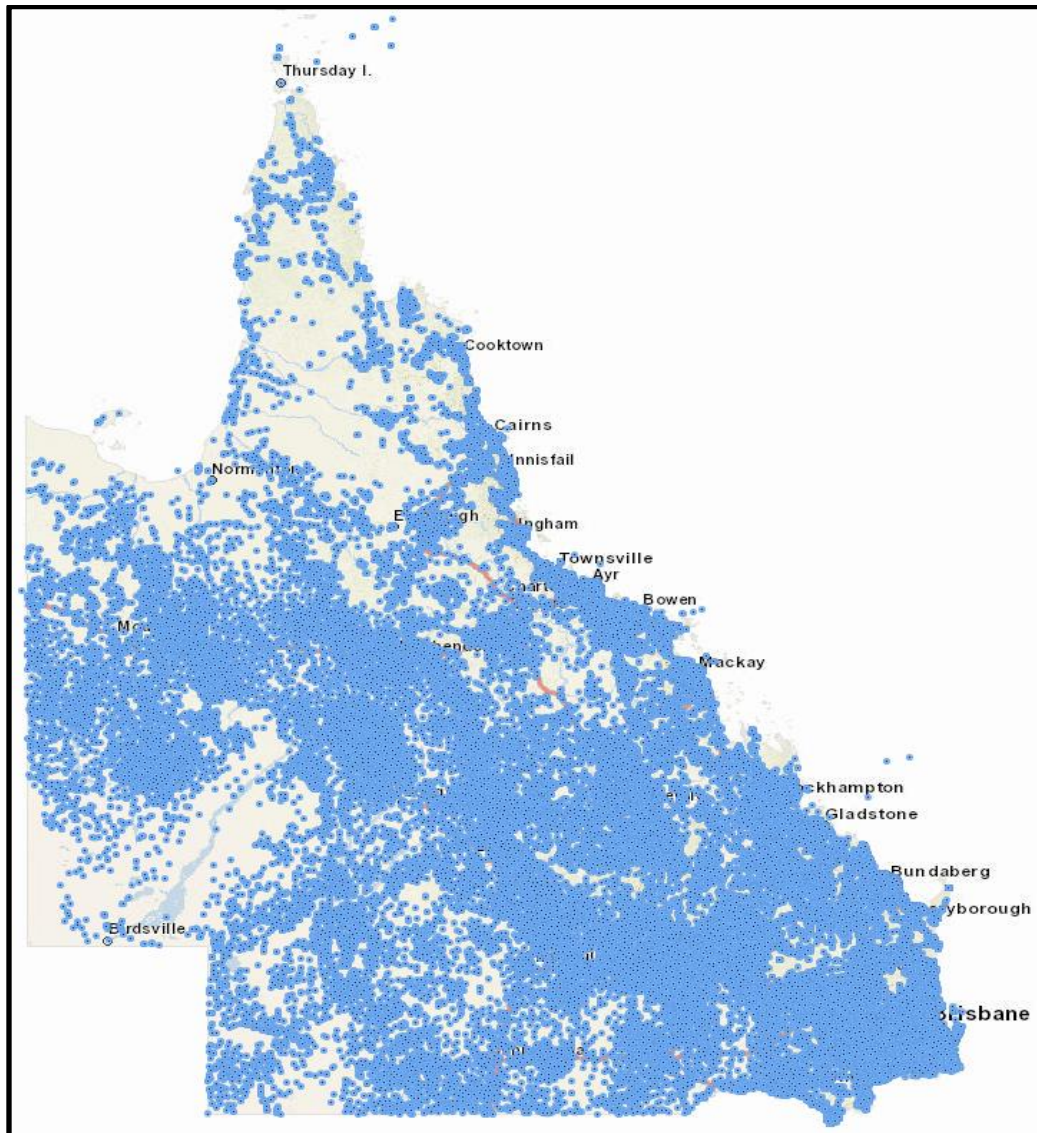
I wish the Panel well in their deliberations, urge a consistent approach to risk identification, assessment (including likelihood and consequence) and mitigation across all industries with common risk , and look forward to digesting the Final Report of the Inquiry Panel in due course.

**Figure 1: NT water bore locations - from NT Government**



Source: <https://nt.gov.au/environment/water/water-data-portal>

**Figure 2: Queensland registered Agricultural water bore locations**



Source:

<https://minesonlinemaps.business.qld.gov.au/SilverlightViewer/Viewer.html?Viewer=momapspublic>

Yours sincerely

John Phillips  
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Blue Energy Limited