



30 May 2014

The Commissioner  
Hydraulic Fracking Inquiry  
GPO Box 4204  
Darwin NT 0801

Dear Commissioner,

## **Submission by Tamboran Resources**

### **Introduction**

Tamboran Resources (Tamboran) is pleased to present our submission to this Inquiry. The Northern Territory is on the cusp of a significant new opportunity for its remote regions via the unconventional hydrocarbon industry. Therefore, the Inquiry is timely in order to address the key issues associated with this new industry and for all parties concerned to engage in an open and scientifically based discussion on these matters. I would like to give you some background on Tamboran and our interests in the Northern Territory before discussing the key points raised by the Inquiry.

### **Background**

Tamboran is a globally focused unconventional oil and gas company based in Sydney. It has been granted seven Petroleum Exploration Permits (EP's) in the Northern Territory, these being EPs 161, 162, 163, 164, 165, 166 and 309 which cover both pastoral leases and Aboriginal freehold land. These EPs cover some 55,997 km<sup>2</sup> and include the Beetaloo / McArthur Basin, the Ngalia and Pedirka Basins. In addition, two applications exist over the Birrindudu Basin (EPA 316 and EPA 317) totalling a further 12,971 km<sup>2</sup>, giving a total area granted or under application by Tamboran in the Northern Territory of approximately 68,968 km<sup>2</sup>.

Tamboran's Northern Territory Exploration Permits are the foundation of the company's unconventional petroleum exploration business.

Tamboran has undertaken a significant investment in time, money and expertise to obtain our seven EPs since the applications were submitted in 2009. This has required many meetings, discussions and negotiations under both the Native Title Act and the Aboriginal Land Rights Act with Traditional Owners (TOs) in the bush and their representatives in the Northern Land Council (NLC) and the Central Land Council (CLC) in order to reach agreements satisfactory to all parties. We believe many of the Traditional Owners understand and appreciate the potential benefits that could accrue to their communities from unconventional hydrocarbon production.

### **Unconventional Hydrocarbons and the Northern Territory**

The huge land mass of the Northern Territory is atypical of the developed world in that it has; very few people, very little industry and the mainly Aboriginal people who inhabit the Northern Territory's outback are largely dependent upon welfare from the Commonwealth Government of Australia.

Existing industry sector opportunities in the Northern Territory's outback regions are extremely limited and are dominated by the Tourism, Mining and the Pastoral Sectors. The development of the emerging unconventional hydrocarbon industry in the Northern Territory offers another industry sector for the people of the Northern Territory in terms of:



- Training and Jobs
- Improved local infrastructure (roads, pipelines, telecommunications etc.)
- Income
- Reduced welfare dependency, and a
- Royalty income to the Northern Territory Government, which is set at 10% of the net well head value. (it is important to note that no offshore petroleum royalties accrue to the Northern Territory Government, they are paid directly to the Commonwealth Government of Australia)

From the numerous meetings held between Traditional Owners, Tamboran, the CLC and the NLC, there is widespread support for the industry to proceed as the Traditional Owner's and Land Councils recognise that unconventional hydrocarbon companies, such as Tamboran, offer new realistic employment opportunities and options, which are very rare in most remote communities in the Northern Territory. Given that some unconventional hydrocarbon projects can expect to be in production for some 30 to 40 years, these are multi-generational industry opportunities that can make a real and lasting difference to the local communities in which they operate.

### **Coexistence with the Pastoral Industry and Aboriginal People**

Very little surface disturbance occurs as a result of the operations of the unconventional gas industry and the experience in the USA and Canada has shown that with technical innovations, the surface footprint continues to be reduced.

The majority of the unconventional hydrocarbon industries activities are beneath the land surface via drilling and the hydraulic fracturing of shale, such that surface operations from pastoral companies, tourism operations and aboriginal people can proceed, relatively unhindered by any petroleum company operations.

The use of one well pad for the drilling of multiple wells further minimizes the environmental impact of the unconventional gas industry. With a small environmental impact / footprint combined with the economic benefits to the bush, ideally there should be significant community support and constructive engagement between the unconventional hydrocarbon industry and other significant land users in the Northern Territory.

### **The North America Experience and Groundwater**

Over 1 million unconventional wells have been successfully drilled in the USA and over 200,000 unconventional wells have been drilled and hydraulically fractured in the Canadian provinces of Alberta and British Columbia.

With all these wells successfully drilled, Tamboran understands that groundwater contamination may have occurred as a result of drilling in only one well, showing that the existing regulations and good industry practices developed to date are working and can continue to be improved. Despite this track record and precautions taken, industry opponents continue to focus on such issues when very little hard evidence exists to support their claims and assertions.

### **Hydraulic Fracturing – The Australian Experience**

Hydraulic fracturing has been used in the majority of petroleum wells drilled in South Australia, Northern Territory and Western Australia since the early 1950's with no evidence of any adverse impacts upon water aquifers. This includes 300 wells drilled in the Amadeus Basin which for many years supplied the gas to the local power stations in the Northern Territory. While the above petroleum wells cited underwent vertical fracturing, the same technology is used for horizontal fracturing. Hydraulic Fracturing is not new, and given the Northern American and worldwide experience, the Northern Territory's unconventional resource can be safely developed as a net benefit to all stakeholders.



## **The use of Groundwater in the Hydraulic Fracturing Process and the Potential for Recycling of Groundwater.**

Tamboran recognises the importance of groundwater to pastoralists, aboriginal communities and the tourism industry and is committed to responsible use of this resource.

The sourcing and use of water for the fracturing process may be a key issue for many projects in the more remote basins of the Northern Territory. The recycling potential during large scale developments can be highlighted to minimise the environmental footprint. There has been significant progress in the recycling of water in the USA through UV treatments to reduce chemical treatment of waters post fracturing. For hydraulic fracturing, we would suggest that project proponents support investigation into practical water recycling methods applicable during field development and indeed, given the remoteness of some of these projects, it is eminently possible that these projects may be improving water access and availability in such areas if the water can economically treated to bring it to standards for consumption by people and cattle.

The likelihood that unconventional hydrocarbon projects will be burdening local communities and regional primary industries for water is minimal. The coal seam gas industry in Queensland has been a successful example of how the oil and gas industry can successfully co-exist with local land users and indeed, improve water access for all.

## **The Regulation of Chemicals used in the Hydraulic Fracturing Process**

Tamboran's position is that the chemical composition of the fracturing fluids should be disclosed to the regulatory agencies permitting the project and made available to the public. Similarly, regulation of the disposal of fracturing fluids should be in line with other jurisdictions and based on evidence-based research (or accepted best practise). We would suggest that DME and other relevant interstate agencies consider the establishment of an Australian version of the US and Canadian 'FracFocus' sites. These FracFocus sites are an excellent resource detailing chemicals used and individual well data which is available for searching by the general public. We believe that disclosure assists the establishment and maintenance of trust with the wider public stakeholders though education is needed initially to assist with understanding as to the types of chemicals used in the fracturing fluids and their equivalent domestic or industrial uses. APPEA have commenced this education process.

## **The Reclamation (Rehabilitation) of Well Pads**

The introduction of horizontal drilling has enabled minimisation of the surface 'footprint' of the drilling rigs and ancillary equipment during the drilling and fracturing stages of unconventional hydrocarbon project. The drilling of multiple wells from the one drill pad means less overall drill pads are required and less overall ground disturbance occurs. Similar to conventional oil and gas projects, once the well has been put into production, there is a very limited visual impact on the local land – only a small wellhead and some piping. Long-term rehabilitation of a well pad will be straight-forward and no different to any other oil and gas project.

## **Monitoring and Regulatory Agencies**

We, as future operators of unconventional gas projects in Australia, fully support the implementation of baseline water quality monitoring (both subsurface and top surface) prior to any fracturing operation in order to both protect industry and regulators from spurious claims but also to enable the public confidence in the procedures and competence of the operators. The Northern Territory has been able to maximize the benefits of its minerals and its LNG industry to date and is well placed to capitalize on its unconventional hydrocarbon potential in a safe and sustainable manner and it should continue to support and have confidence in the DME as its lead regulatory agency.



**In Conclusion**

It should be noted that the Australian Council of Learned Academies (ACOLA) published a report last year (2013) on the unconventional gas production potential for Australia, which contains an excellent overview of the science and environmental issues facing unconventional gas in Australia. ACOLA also commissioned a number of review papers, which fed into the main report. They make a pertinent point that “A number of environmental issues related to the shale gas industry have arisen in the United States and similar questions have been raised about potential impacts in Australia. A large number of impacts are possible but the likelihood of many of them occurring is low and where they do occur, other than in the case of biodiversity impacts, there are generally remedial steps that can be taken.”

Similarly, the Council of Canadian Academies earlier this month published a landmark study “Environmental Impacts of Shale Gas Extraction in Canada”. The report cited the Alberta Energy Regulator’s environmental monitoring programme as the “gold standard” for credibility, transparency and a commitment to science. It takes a play-based approach, dividing the region into watershed sectors, rather than trying to micro-manage individual wells. This significantly simplifies the burden of regulation, which otherwise might overwhelm the regulatory bureaucracy, while still ensuring a high level of risk management and accountability.

We believe that whilst the terms of reference of the Inquiry raises issues common to all jurisdictions considering how best to develop their indigenous energy sources, there are numerous opportunities to build upon the work done by others in applying this knowledge to the Northern Territory. We would recommend that the Inquiry consider the particular expertise possessed by both the State Governments of Texas and Alberta in regulating and permitting unconventional hydrocarbon projects.

The Northern Territory and its people have a wonderful opportunity to benefit from a new industry in the bush. This opportunity is enhanced by the decisions of the New South Wales and Victorian Governments to place moratoriums upon the Unconventional Hydrocarbon industry and the Coal Seam Gas industry in these two states. These decisions by the Governments of New South Wales and Victoria have greatly benefited the people of Queensland and in particular the regions of Queensland that now have a thriving Coal Seam Gas industry and associated LNG export terminals.

Tamboran looks forward to being a part of a successful Unconventional Hydrocarbon Industry in the Northern Territory and would welcome the opportunity to discuss or clarify any aspects of its submission with the Commission, should that be required.

Yours faithfully

Joel Riddle  
Chief Executive Officer  
Tamboran Resources