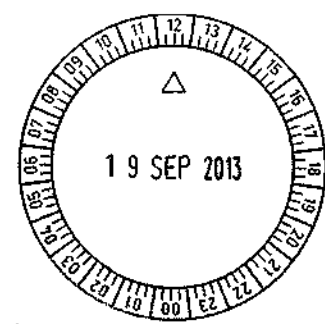


Ms Margaret Liveris,  
Committee Clerk,  
Standing Committee on Environment and Public Affairs,  
Legislative Council,  
Parliament House,  
GPO Box A11 Perth WA 6837



**Re: Submission to Parliamentary Inquiry into Fracking**

Dear Ms Liveris,

Our group Frack Free Geraldton is a community group made up of well informed people, coming from all walks of life (parents, families, teachers, truckies, tradesman, artists, nurses, doctors, gardeners, fisherman, lawyers...the list goes on) and was raised due to a common concern regarding the impact that unconventional gas development is going to have on our state. Currently Frack Free Geraldton has approximately 250 members on our list and is a continually growing organisation as more people begin to independently research and understand the dire implications that fracking will have on their water, their land and their state.

It is important to note that our group is not against mining; just mining that has a high possibility of causing irreversible, detrimental damage on our water and agricultural land. As we all value our land, our water and our country we have put together this submission outlining our concerns.

We have made a list of our concerns in relation to the terms of reference. We believe that the inquiry does not go far enough, as many important issues have been left out. We have included other issues such as groundwater contamination, health impacts on humans and animals, conflict of interest in terms of regulation, industrialized landscape, and failure of governance and air quality. We hope that the committee carrying out this inquiry take into consideration these issues, as they are just as important as the original four terms of reference.

**a) How hydraulic fracturing may impact on current and future uses of land;**

Fracking is at present allowed in areas of nature conservation and native title under the PGER Act of 1967. Our state should not allow development in such special areas of land, which is set aside for preservation. These are areas of conservation, which many are managed by the Department of Environment and Conservation (DEC). According to the DEC website "The department has the **lead responsibility for protecting and conserving the State's environment on behalf of the people of Western Australia.**" This includes managing the State's national parks, marine parks, conservation parks, State forests and timber reserves, nature reserves, marine nature reserves and marine management areas.

(Ref: <http://www.dec.wa.gov.au/about-us.html>)

If the State Government allows such harmful mining development, such as hydraulic fracking to take place, then they are letting down the people of Western Australia. It is a huge worry when the role of a government department (DEC) aims and objectives are completely ignored for short term economic benefit, which could potentially leave a legacy of irreversible environmental damage, which every Western Australian will have to bear.

Numerous economic sectors, such as agriculture and tourism stand to be impacted detrimentally by fracking. Any contamination of soil, air and water will directly affect production on valuable farmland and can also lead to a decrease in land value. We believe that issues such as health and food security outweigh the (short term) economic benefits of Fracking. Mining is not the only economic source in Western Australia; however unconventional gas mining, even with its limited economic existence, appears to be placed above any other industry.

According to the ACOLA Report, (May, 2013) it is inevitable that shale gas operations will have an effect on the community and other industries. Service roads, pipes and other mining infrastructure will need to be built and maintained as it is estimated that thousands of wells are planned for our rural areas. "The cost of production will be high and in some cases, could outweigh the benefits of development". (ACOLA, 74, 85) This unsightly web of roads, pipes and pollution pits will directly affect our wildflower and tourism industry. "Physical changes include fluxes across the landscape such as fluxes of radiation, wind, and water all of which important effects on native vegetation remnants" (ACOLA, 103).

In the event that land/air/water becomes contaminated through the shale mining, the impact on current and future use of land could be immense. If farmers and their families are too sick to work on the land, and the land is unable to be sold on because of contamination, and the animals or food which are generally raised on that land are unable to be produced, and the gas wells have been depleted and are no longer in use, then the land is in effect, useless.

"Health effects associated with benzene include acute and chronic nonlymphocytic leukaemia, acute myeloid leukaemia, chronic lymphocytic leukaemia, anaemia, and other blood disorders and immunological effects. In addition, maternal exposure to ambient levels of benzene recently has been associated with an increase in birth prevalence of neural tube defects. Health effects of xylene exposure include eye, nose, and throat irritation, difficulty in breathing, impaired lung function, and nervous system impairment. In addition, inhalation of xylenes, benzene, and alkanes can adversely affect the nervous system" (McKenzie, Lisa M; Witter, R Z; Newman, L S; Adgate, J L, May 2012).

The unconventional gas industry gives no assurance that water, air and land contamination will not occur. In fact, they expect contamination **will** happen to some degree, but assure us that it will be minimised and cleaned up following 'best practices'. This is not enough assurance for a concerned (and informed) community to grant gas companies a social licence to operate.

## **b) The regulation of chemicals used in the hydraulic fracturing process;**

A broad scale, scientific study needs to be undertaken *now* before any further gas development occurs, to obtain crucial baseline data, which will be required to establish if there are negative environmental consequences from the chemicals used. Data needs to be taken from all relevant water sources, as well as soil and air quality samples. If this is not carried out prior to exploratory fracking, then there is no data to compare and the industry has a loop hole for being unaccountable, as has been the case in the U.S. and Qld.

Further studies and extensive research needs to be conducted into the health impacts that these chemicals cause. On many occasions the Department of Mines and Petroleum, Executive Director

has stated in the media “the chemical additives used are found in common household items, such as cosmetics, detergent and table salt”. This is no confirmation that these chemicals are safe, as there are many chemicals used in common household items that are dangerous, toxic and cause proven health issues. There are recent scientific toxicology studies to demonstrate that the chemicals used in everyday household products are causing many chronic illnesses in Australia and around the world. Furthermore, the process of fracking releases chemicals that are locked within the shale, such as methane. These unlocked, naturally occurring chemicals when mixed with the ‘common household’ chemicals become a dangerous chemical cocktail. When questioned about this process, mining executives explained that they are not responsible for this ‘chemical cocktail’ which they have produced, only for what products they physically put into the well. We expect mining companies be held accountable for all chemicals (and bi-products) occurring from the fracking process.

Within the ACOLA report, intended for the federal and state governments, and gas and oil industries, it has been pointed out that there is only limited overseas data and no Australian data, however, “the issue should not be ignored” (ACOLA, 17)

### **c) The use of ground water in the hydraulic fracturing process and the potential for recycling of produced water;**

It is well documented that huge amounts of water are used in this mining process. According to world renowned scientist and environmentalist Dr David Suzuki, “Hydraulic fracturing requires massive amounts of water” (Please See Attachment 1). It is this over consumption of a finite resource that is problematic for the community.

Western Australian’s understand that we rely on groundwater and the importance of conserving our most precious resource. If our groundwater supply is used unsustainably this will have damaging implications for Western Australians, as so many landholders and communities rely on this resource for not only their livelihoods but everyday living.

Another issue is that these gas companies do not have to pay for the use of water, which is unethical, especially when many of the companies are under foreign ownership and walk away with no care or responsibility for damage caused.

### **d) The reclamation (rehabilitation) of land that has been hydraulically fractured.**

In reference to the point of rehabilitation of fractured land, who will be responsible for the cost of restoring an area to its prior state? This also raises the question of how can an area of land (including the water flowing below it) be rehabilitated? It seems more appropriate to prevent the contamination in the first place.

Wells have a short lifetime, and these abandoned wells and holding pits will need to be monitored regularly for leaks, however, given that there will be expansive distances between wells, “it will not be feasible to monitor large areas for extended periods of time” (ACOLA, 80, 17)

For this inquiry to be completely ethical and moral, a widening of the terms of reference needs to be carried out. There are too many important issues that have been left out when it comes to examining the impact of fracking on an area. Our group believes that these need to be investigated for the inquiry to be complete. Please see below for our other concerns about the fracking process.

## **1. Contamination of Groundwater and Surface water**

The number one concern of our group is that of water protection. After reading through numerous articles, from a wide range of sources, it is clearly evident that there has been a huge problem with the contamination of both groundwater and surface water. There is documentation, photographic and film evidence of water contamination occurring from well case failure, waste water spills, leaking of fracking ponds, poor disposal of waste water (in some cases directly into Qld rivers) and flooding of the fracking ponds. As the unconventional gas industry is fraught with so many risks and levels of where contamination can occur, the industry should not be allowed to develop. Even with the Department of Mines and Petroleum's world's best practice, accidents can still happen and at what cost? If only one well leaks or one pond floods, it is one too many and not a risk worth taking. Our group believe that the risks far outweigh any short term economic gain, with the consequences being long term environmental and social pain.

## **2. Health impacts to both animals and humans**

One does not have to research too far into unconventional gas development, to realise there is a strong correlation to health impacts to both animals and humans. There is a wide range of evidence to link these conditions to environmental effects caused by the process of fracking. This is an issue which demands immediate attention, as if it is not investigated thoroughly, could have serious health repercussions for the people of Western Australia and in turn become a massive burden on our all ready over pressured health system.

## **3. Conflict of Interest in regard to Regulation**

Our group believes that there is a huge conflict of interest with the regulation system for unconventional gas development in Western Australia. As the Department of Mines and Petroleum are responsible for authorising the permits to mine, they should not be in control of regulating the industry as well. An independent, ethical body needs to be in charge of this critical role. If regulation is not enforced properly it will have dire consequences for the environment, water and all Western Australian citizens.

## **4. Industrialized Landscape**

It is has been documented all around the world, in particular USA and Qld that when fracking development occurs it industrialises your community. There is so much infrastructure required to exploit shale gas resources, such as pipelines, pumping stations, truck parking bays, access roads etc. With this development comes an increased traffic load to service the gas wells. Another invasive impact that the community has to endure, something that is hard to deal with especially when it is something they did not want in the beginning.

## **5. Air quality**

According to DEC website, "Air quality is important to us all, and poor air quality affects human health and the environment. The air we breathe is a mixture of gases, and tiny solid and liquid particles. Air pollution occurs when the air contains substances that can affect or even injure humans and animals, or damage plants or materials. These substances, air pollutants, can be in the form of tiny particles, liquids or gas. Some substances come from natural sources, while others are caused by human activities such as cars, fires, industry, agriculture and business" (Reference: <http://www.dec.wa.gov.au/pollution-prevention/air-quality.html>). There have been University scientific studies carried out in Queensland Gasfields, which have indicated a huge increase in the levels of methane in the air. This air pollution, which is considered more hazardous than CO2 emissions, will have detrimental impact on animal, human and plant health.

## 6. Failure of Governance

As there are so many negative impacts that have been documented around the world, caused by fracking, a moratorium needs to be enforced on the fracking until this inquiry is completed. At present exploratory fracking is occurring in our state and could already be having detrimental impacts. It is a massive worry and even an extraordinary notion that the general public have to demonstrate that an industry practise is unsafe. With a democratic, ethical government system, the industry should have to prove, without any doubt, that the processes used are completely safe and risk free before preliminary operations can begin.

Another disturbing issue that has been brought to our groups attention, is that the bodies normally responsible for environmental protection, in particular government departments and groups funded by the government, have no stance when it comes to the position on fracking. Upon discussion with numerous staff members at different organisations, we have found that employees are not allowed to make comment. Many professionals, with technical experience have stated that they personally believe that fracking is an environmental concern; however they are not allowed to comment, as they cannot be seen to be critical of government policy. This seems extremely unprincipled, considering there is an entire government department (Department of Mines and Petroleum) that actively promotes the unconventional gas industry, at the expense of tax payers. Where is the equality? Surely people working in departments aimed at protecting the environment, should be entitled to give their educated opinion.

Frack Free Geraldton trusts that the government take our concerns seriously and address all matters outlined in our submission. Once again, we are not against progress within the mining industry but have concluded, through careful research, that the environmental impacts of fracking are extremely disproportionate in comparison to the economic gains of fracking. The potential losses of and damage to water, air, health and land are too greater price to consider fracking an option for our state. We sincerely hope that our Government are as meticulous in their research into the effects of fracking as we have been and conclude to put the long term interests of its people and land before any short term economic gain which would be derived from fracking.

Yours sincerely

Frack Free Geraldton

Signed on behalf of Frack Free Geraldton.

*Joanne Franklin*

## **Reference**

*Science of the total environment*

*Human health risk assessment of air emissions from development of unconventional natural gas resources*

Roxana Z. Witter, Lee S. Newman, John L. Adgate

Colorado School of Public Health, University of Colorado, Anschutz Medical Campus, Aurora,

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*Engineering Energy: Unconventional Gas Production, Project 6. A study of shale gas in Australia*  
ACOLA, Australian Council of Learned Academies, May, 2013.

*Everything Under the Sun*, David Suzuki and Ian Hanington, 2012

(Reference: <http://www.dec.wa.gov.au/pollution-prevention/air-quality.html>)