GAS FRACKING SENATE INQUIRY SUBMISSION

I Wish to call for broadened Terms of Reference. The terms of reference of the current inquiry are far too narrow. It is extremely important that the terms of reference are expanded – fracking will have devastating impacts on the WA environment and on the health of Western Australians. The terms of reference of the inquiry need to capture the key risks of the industry.

Amongst issues that the expanded terms of reference must cover are the following:-

1. **The potential for human health impacts**. Fracking can make people sick. We do not have a complete list of chemicals used in Fracking as there is no requirement to make them all public. Western Australia's water and land is vital to our health, our lifestyle and our economy. Gas fracking is not worth the risk. No dangerous pollutants should be pumped through our aquifers – laws should ensure that all fracking chemicals are completely safe. A range of dangerous contaminants are released from shale or tight stone fracking and have the potential to contaminate ground or surface water – we should be concerned about what comes back up again. Scientists and Doctors around the world have pointed to the serious health risks associated with shale gas fracking. Shale gas frackers must not be allowed to gamble with our health.

2. **Social impacts**. Gasfields will bring in hundreds of FIFO workers to communities, who drive up rents, disrupt communities and then pull out of town, leaving nothing but degraded landscapes.

3. **Groundwater contamination** that may flow from failed wells, from migration via natural fissures and abandoned wells. Who will have liability for abandoned wells? Groundwater supplies two-thirds of our state's water needs – both for drinking and agriculture. In Australia, the Senate Interim Report noted that fracking caused leakage between Walloon Coal Measures (part of the Great Artesian Basin) and the Springbok Aquifer. Government has acknowledged impacts on groundwater with reductions in water in landholder bores and inter-aquifer and transfer of poorer quality water.

4. **Air pollution** isn't covered under the terms of reference of the inquiry. A bi-product of fracking operations is high levels of atmospheric pollution. Levels of ozone in remote locations near gasfields have been found to exceed that found in highly polluted urban locations. The gas fracking industry wants to develop on farmland and close to regional towns.

5. **Impacts on farming and pastoral land, as well as on natural ecosystems.** Fracking extracts vast volumes of water and produces huge quantities of waste salt and the extraction of large volumes of water on aquifers risks water contamination and serious damage to agricultural productivity on some of our best farmland. Exploration of gas has the potential to severely disrupt virtually every aspect of agricultural production on cropping lands and in extreme circumstances, remove the land from production. Sustainable food production in Western Australia and food security may be threatened from impacts on rivers, groundwater contaminants and salinity, loss of land area to gas fracking infrastructure, contamination of land and damage to soils and potential contamination of food. Western Australia is one of the world's great foodbowls. Shale gas has the potential to threaten the water that farmers need to keep their farms productive – shale gas fracking presents a real threat to Western Australia's food security and to valuable export markets. Gas fracking threatens to industrialise natural landscapes in the Kimberley, wildflower country, Ningaloo, Fitzroy

River, transforming their landscapes into unsightly, pockmarked spider webs of wells, tracks, pumps and pipeline infrastructure. A typical gas well site has 3.6 hectare surface footprint.

6 .**Climate change** impacts that flow from fugitive emissions.

7. The **cumulative impact** on landscapes of shale and tight gas development. A gasfield comprises several thousand wells. The cumulative impact of those wells on the environment, farm land, and human health should be considered, as well as the social impact on communities. Well-by-well assessment, as is preferred by the current government, is clearly inadequate.

8. **Is the Department of Mines and Petroleum too deeply conflicted to be trusted with regulation of this potentially environmental disastrous industry?** The government regulator is doing the industry's bidding by pushing out a range of misleading claims. The department is clearly conflicted, tasked with both ensuring that WA's environmental values are protected and with promoting the industry. The Regulatory frameworks for gas fracking are inadequate.

9. The Government should look seriously into the scientific evidence and the public should trust that a proper investigation into the health and safety of gas fracking is done before it proceeds any further.

2. Address existing Terms of Reference

Terms of reference 1 – How hydraulic fracturing may impact on current and future uses of land:

- Who has liability for abandoned sites after well abandonment, and what steps can be made to ensure that frackers don't just cut and run, leaving landholders and the community to deal with the consequences? - Conservation parks must not be degraded by fracking. They've been preserved for a reason, and should be totally off limits.

- Will fracking in the Kimberley, South West and the Mid West lead to the spread of die-back?

Term of Reference 2 – The regulation of chemicals used in the hydraulic fracturing process

Chemical additives used in fracking, their degradation products and compounds mobilised from sediments during the process can pose a risk to animal and human health by contaminating water used for drinking, stock watering and food production. Waste water coming to the surface, may contain volatile organic compounds, high concentrations of ions, heavy metals and radioactive substances.

- No dangerous pollutants should be pumped through our aquifers – laws should ensure that all fracking chemicals are completely safe.

- A range of dangerous contaminants are released from shale or tight stone by fracking, and have the potential to contaminate ground or surface water. Concern doesn't end with the chemicals that are pumped into the well – we should be concerned about what comes back up again, as well.

Term of Reference 3 – The use of ground water in the hydraulic fracturing process and the potential for recycling of ground water:

- Social justice issues concerning the overuse of groundwater in fracking. Each frack uses up to 30 million litres of water. The Mid West might see 25,000 wells, the Kimberley over 100,000. That kind of water use will deplete aquifers. Western Australia's water resources are scarce. Groundwater supplies two-thirds of our State's needs, both for drinking and agriculture. The water consumption of the Industry becomes very concerning for a state as dry as Western Australia and particularly dry regions like the Midwest and Gascoyne Regions.

Term of Reference 4 – The reclamation (rehabilitation) of land that has been hydraulically fractured:

- Who is liable for contamination of water that occurs after a well has been abandoned? Companies are obliged to 'monitor' for two years after well abandonment, but that is the point at which their obligations cease. But the wells remain a pollution threat forever. Concerningly, pollution might occur post-well abandonment without anyone knowing, because no monitoring is being done, creating a public health time bomb. It is impossible to completely rehabilitate an abandoned gas fracking site.

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